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Volume 1

No. 8

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# THE Finish Line



**A CHALLENGE IS PRESENTED** to the porcelain enameling industry in the views of many of today's industrial designers. The industrial designer is playing, and will probably continue to play, an important part in the development of consumer durable goods for tomorrow — and the fact that many of them "shy away" from porcelain enamel as a logical medium is a point that should be taken seriously by our leaders.

Reasons for the designers' attitude are too manifold to be covered on this page, but we do hope to make the point that it is high time for those to whom enameled metal means "bread and butter" to become better acquainted with the top-notch designers — and — to see that the designers are acquainted with the latest developments in enameled metals.

## Read Lippincott's article

Featured in this issue is an article by J. Gordon Lippincott of Dohner and Lippincott, New York designers. There are many thoughts in the article with which we can heartily agree — some statements with which we strongly disagree. The latter will, we believe, serve to illustrate our point.

For instance: "The porcelain on steel range . . . has tremendous disadvantages in the eyes of the consumer. . . . First, porcelain chips badly when abused. . . . Second, it is subject to staining. . . . Also, . . . it is difficult to obtain color uniformity.

"There is no doubt," says Mr. Lippincott, "that aluminum and stainless steel are now in a position to enter the range field."

Note, also, his reference to the use of "laminated plastics flues" to replace masonry chimneys in small homes to save cost and space.

## What are the facts?

" . . . chips when . . . abused" — What product doesn't reflect damage *when abused*? **WE KNOW** of thousands of porcelain enameled products that have given, and are still giving years of clean, trouble-free service because they have *not* been abused.

**WE KNOW** that where the bright metals have been combined with *acid resisting* porcelain enamel for uses involving severe acid atmospheres or corrosive condi-

tions that it was *not* the porcelain enamel that showed the strains.

**WE KNOW** that with proper materials and up-to-date enameling technique and plant control, uniformity of color *can* be maintained.

**WE KNOW** of kitchens utilizing the "soft metals" for sinks, counter tops, etc., where no amount of advertising the *beauty of old silver* will ever sell these home owners or their friends on a repeat order.

**WE KNOW** that the light weight insulated flues for the elimination of chimneys are already available in durable, acid resisting, porcelain enameled steel. (See page 13.)

**BUT**, Mr. Lippincott apparently does not have these facts, and we use his name merely to represent the modern industrial designer.

## The grass is greener

We may pass this off in the belief that the designer uses the "new" and "different" material to sell his services. A more realistic attitude would be to assume that he is interested in the materials that will give his client the finest, most practical end product at the lowest manufactured cost — and continue to do this over a period of years as a result of satisfaction among consumers.

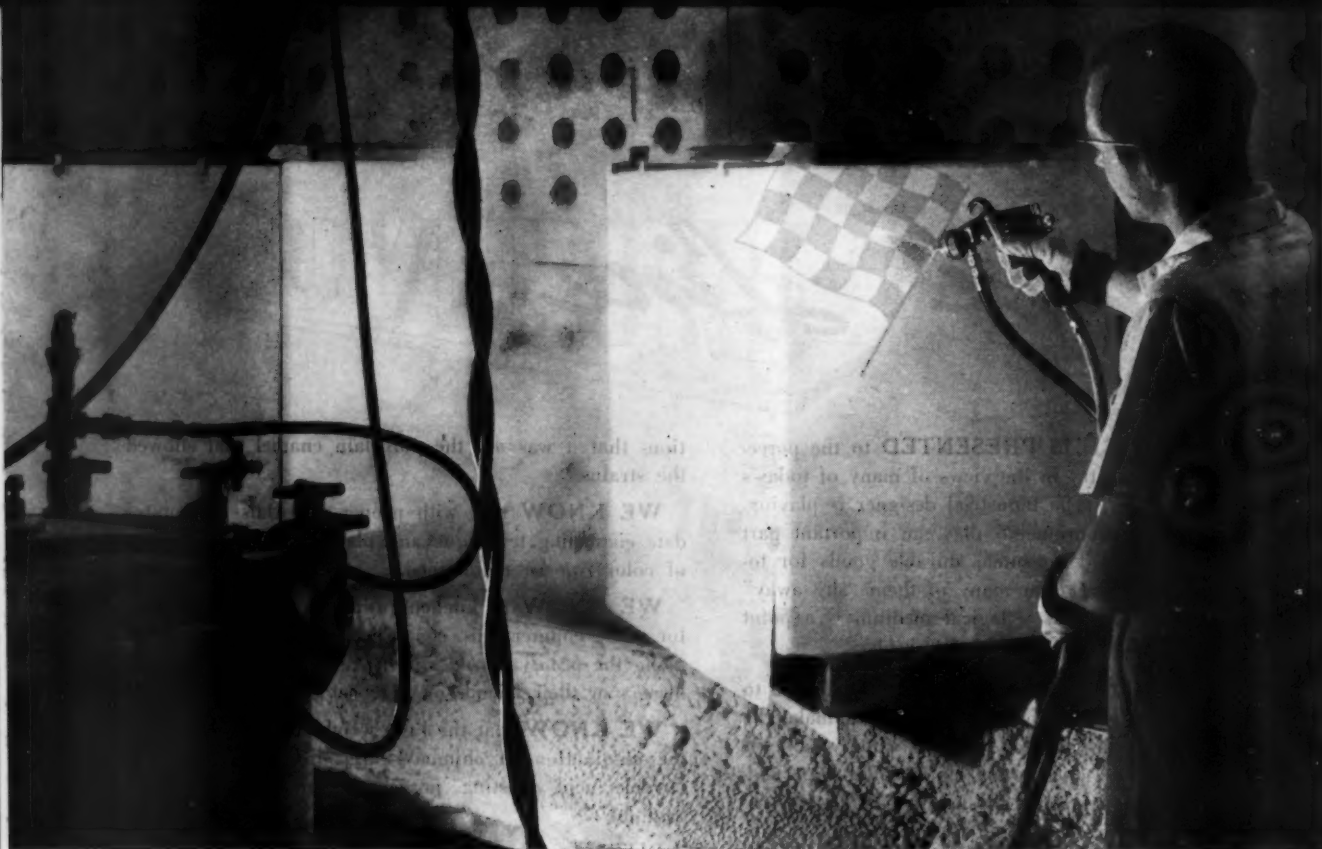
We may pass off the "plastics flues" in the belief that all designers have "plastic-itis." We would probably be closer to the truth if we recognize that plastics *do* offer many possibilities for the design profession, but that as a group the designers are interested in *any* material that will do the job *better* or at lower cost.

## What to do about it?

Never before was the slogan "Porcelain enamel for cleanliness, durability and lasting beauty" more appropriate. It can not be applied with equal propriety to any other medium for appliance design.

To repeat — it's high time we acquaint the designers with **TODAY'S** porcelain enameled metal and not let them continue with a conception based on the materials and processing technique of twenty years ago.

*Dana Chase*



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# Appliances for tomorrow

a designer's candid opinion on today's shortcomings and tomorrow's possibilities

By *J. Gordon Lippincott* • DOHNER AND LIPPINCOTT, NEW YORK CITY

THERE will be greater advances in appliances in the first few years after the war than in the previous twenty years. There are many sound reasons for this forecast. First and foremost—the manufacturers are beginning to realize that the average American woman does not have a maid and that she uses her own appliances and that she is gradually insisting on products that are functionally well designed and styled. Too often in the past products for feminine use were designed by engineers without thought to consumer needs. We know that the maidless kitchen is here and that therefore the trend will be toward appliances designed for easier use and cleaning and with more automatic controls.

The American woman was just becoming used to automatic controls in electric ranges before the war, and certainly after the war all better models will have devices which will enable the housewife to cook her entire meal during the afternoon while she is out playing bridge.

One of the greatest problems facing industry today is to accurately forecast what the American woman wants in the products she buys. In the recent past, ranges—for example—have been dolled up with chrome and fancy molded plastic handles with gadgets and lights to help add sales appeal. Most of these additions did not improve the function of cooking and while many American women were fooled into buying a stove once, by means of gadgets with eye appeal, they will be more critical the second time. Another important point is that the American woman has gone to war. The fact that she has spent many months in war industries using machine tools has made her far more aware of mechanical

things, and as a result she will be a more astute buyer in the postwar years.

There are many objections to the conventional stove that recent surveys have brought out:

The fancy lights at the back of the stove do not illuminate, as the lighting surface at the back of the stove is too low to provide anything but glare, and since the average kitchen has its light in the center of the ceiling the woman is always working in a shadow. The low light on the back of a range has done little to help.

## Gadgets must offer utility value

Most women do not use the salt and pepper gadgets on the back of her range—it is a long reach to get to them—often over hot cooking utensils, and in some ranges the salt and pepper shakers are completely hidden when the burner covers are raised up in the cooking position. I know several women with ranges of this type and they certainly do not look kindly toward the manufacturer.

Most of the heat still escapes up around the sides of the cooking utensils. Of course, there are some ranges that have depressed flush cooking utensils which are far more efficient. The average woman, however, prefers to use her own cooking utensils and these still must be used on the top of the range. There is still a great deal that can be done to design a range with depressed cooking utensils of maximum efficiency that is still well styled and easy to clean and having greater consumer acceptance than present designs.

All ovens today have hot spots. They take too long to heat up to baking temperatures and are still not well insulated enough. Oven hot

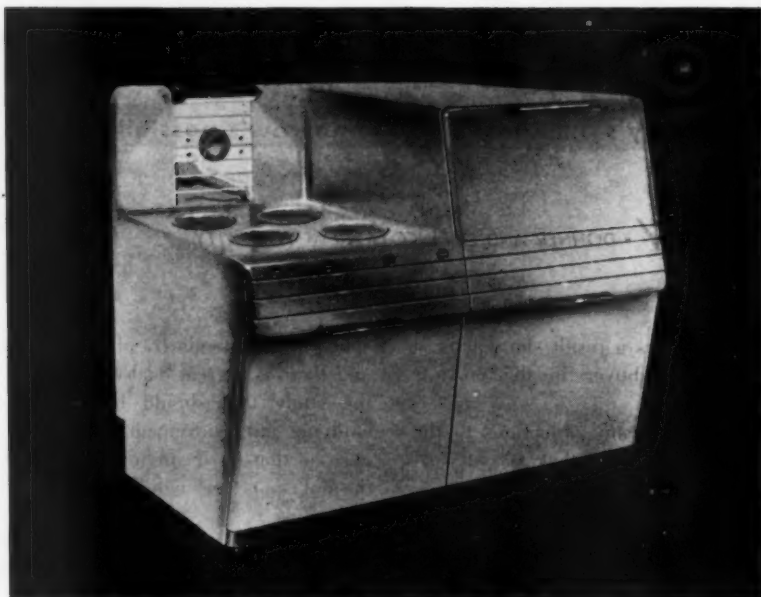
spots are particularly objectionable and there is a great deal of engineering study that should be done in studying air movement within an oven so that by means of circulation the hot spots are avoided.

## A small oven is needed

There is a need for a small continuously heated oven. The average person would prefer hot biscuits for breakfast to toast, but only the southerner seems to have time for this luxury. In the postwar years biscuits and bread will certainly be marketed in a frozen dough form which will put a premium use on the oven. The conventional range has a large oven which is designed to take a Thanksgiving turkey and large roasts—whereas 90% of the baking could be done in a far smaller oven. The fact that many women bake potatoes in small, portable ovens on top of the stove indicates the need for a small continuous oven in the average range. This would take one casserole and bake a few potatoes at a time—something in the dimension of 11" wide, 11" deep and 8" high will probably answer. If this were well insulated it could be kept continuously warm from the pilot flame and warm enough to warm up rolls and left-overs at any time during the

### Editor's Note:

We would hardly be expected to agree with Mr. Lippincott's views on porcelain enamel as expressed in this article. (See "The Finish Line," page 7) We do believe there is much constructive information in the criticism and suggestions offered, and present the article as one that should be of interest to the majority of household appliance manufacturers.



*Oven is placed at convenient height. Automatic controls would enable housewife to cook entire meal while out playing bridge. Better engineering will provide increased efficiency, lower cost. Pleasing design will improve appearance of kitchen.*

day or night. Then it could be raised to baking temperature very rapidly.

It is too easy for children to turn on the gas range pet cocks. What mother has not been fearful of her four-year-old child going into the kitchen and becoming asphyxiated? I know the average man will "pooh-pooh" this idea, but the average woman who has children will applaud it. She is your consumer.

There is no place on the conventional range for crackers, cooked cereals and food that should remain warm and dry in order to be kept crisp and ready for eating. The old coal range that had the warming oven on top was functionally a very sound idea. There is no reason why gas and electric ranges should not be styled so that this storage space is brought back to its needed use. The entire space above a range to the ceiling is now being wasted in the average small home where space is a premium.

#### **Where should the oven be located?**

Stove manufacturers have done a great deal of research and still have not decided where the average woman would prefer to have her oven. The range whose top surface is counter height, and unbroken with a low

oven, requires some stooping. A top surface which is broken with the oven raised higher requires no stooping. So far the buying tendency has been toward the former style — indicating that the women prefer clean, smart styling to physical comfort in the use of the range. Still we should study ranges with higher ovens from the standpoint of styling. It certainly should be possible to design a range with a higher non-stoop oven and still make it smart in appearance. It will then have not only smart styling for consumer acceptance, but will have added functional features. Another point that many women complain about is that the storage drawers of the average range are of little value. They are usually very warm, being next or under an oven or grill.

#### **Include exhaust fans in the ranges**

Kitchen ventilator fans were booming just before the war brought all consumer production to a halt. One of the greatest users of kitchen fans were the speculative builders, and the average price paid for a ventilator was \$18 to \$20 a unit. The kitchen ventilator is here to stay. The average American woman wants

it, and while the market is a long way from saturation it is an electric appliance that is growing extremely rapidly. A little thought will show that the kitchen exhaust fan does not belong in the wall but in the range itself. After a year of installation there is usually a track of smudge all across the wall from the range to the ventilator. And this is particularly true if the ventilator is placed over the range — the normal position. This is because all cooking vapors condense on the cold wall on their way to the exhaust fan, causing an unsightly wall condition. If the fan were built into the range itself the kitchen would have grease-free walls indefinitely. This would be an extremely strong sales point for the average housewife. It certainly would cost no more to build a fan into the range than to add it as an extra into the wall. Indeed, it could very possibly cost less.

One of the arguments the stove manufacturers will immediately bring forth is that in many kitchens it is not possible to put a range against an outside wall and there are no flues available. It should be borne in mind that there is a potential market of 6,000,000 homes in the United States and that in new homes the architect will plan for the stove against an outer wall if such a stove is available with built-in ventilation for the finest functional kitchen. Of course, the same stove could be sold without the in-built ventilation, if desired.

The porcelain on steel ranges, while it has a surface that is easy to clean and of lasting beauty, still has tremendous disadvantages in the eyes of the consumer. The manufacturers are also aware of these disadvantages. First, porcelain chips badly when abused, and once when chipping occurs it can not be repaired without replacing the entire panel. Second, it is subject to staining. Also, as every manufacturer knows, there are several hundred different colors of white, and it is difficult to obtain color uniformity. There is no doubt that aluminum and stainless steel are now in a position to enter the range field.

## New competition

### for porcelain enamel

Aluminum particularly looks favorable with its lower postwar price and with the greatly increased "know how" in its fabrication. Visualize for a moment a completely welded aluminum stove. It would be far more suited to mass production than is the present bolted assembly. Because of its welded construction it could be built without a frame — in other words — the skin panels themselves would carry the stress. This range would not only be lighter because aluminum was used instead of steel, but also because there actually would be a lesser volume of metal in the range itself because of welded construction. It would result in considerable savings in shipping. The present methods of anodizing aluminum are such that the entire range could be anodized in any attractive color desired in one dipping, resulting in finishing costs far lower than present enameling costs. One of the problems, of course, in designing an aluminum range would be that aluminum is an excellent conductor of heat and it would have to be unusually well insulated to prevent an extremely hot range during use.

### Look for the coal burning appliance

The growth of space heaters in this country in recent years has been phenomenal and there is no doubt that with the trend being as it is toward the low cost home that there will be a tremendous demand for really efficient space heaters. The trend may well be toward the use of coal instead of oil for lower operating cost, and manufacturers should now give careful study to the problem of burning pulverized coal and getting rid of the nuisance of ashes. For example — if the ashes were fine enough coming from an automatic stoker using hard coal, the chances are they could be flushed down the sewer in small dribbles and the user would never have to consider the ash problem at all.

There is a definite increased market for a combination coal range, hot water heating element and space heater all built into a single unit. This

might burn pulverized coal with an exhaust system that sucks the ashes into a can outside. The built-in exhaust could probably remove all kitchen odors and remove ashes at the same time. Also, with this combination nothing would appear in the living room but the grill. One of the biggest problems of designing space heaters is that they never look really well in any living room — colonial or modern.

The conventional space heater will certainly have a built-in air mover or fan which will greatly increase the output of the unit for its size. It is very difficult to get uniform heat throughout a small house with a space heater but an in-built fan should help considerably with the warm air circulation. It should be remembered in styling space heaters that they are not a piece of furniture and certainly not an object of beauty. They are purely functional, and should be as inconspicuous as possible — consistent, of course, with having sales appeal.

### Goodbye chimneys

One big improvement in the postwar home will be in flues. The average masonry chimney costs at least

\$250, which is a good chunk of the total cost of the average small home. This is because the masonry chimney is heavy and requires an extensive foundation in order not to settle more than the rest of the house. New laminated plastics flues will greatly lower this cost with the result that the space heater may be put anywhere in the house without costly additions of a chimney.

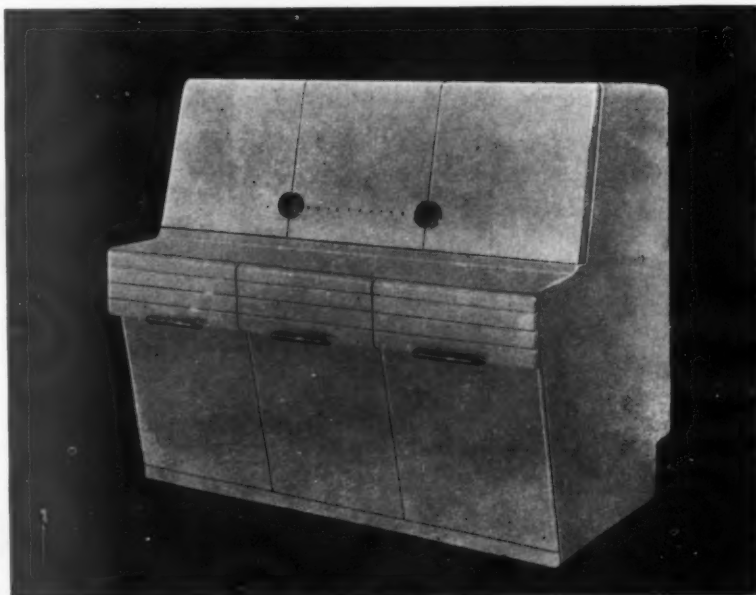
### What about refrigerators

#### and washers?

There is great room for improvement in household refrigeration. Most prewar models have large areas that are inaccessible without removing many articles, or the housewife must stoop uncomfortably to reach lower shelves. Some improvements have begun to be made in the way of racks on the insides of the doors and drawers for vegetables and fruits.

However, the basic flaws in former designs can not be remedied sufficiently by such minor improvements. Complete re-design from a functional standpoint is necessary, as well as re-engineering to take advantage of new materials and increased knowledge about thermodynamics. Present-day boxes are much too

*This refrigerator designed by Dohner & Lippincott provides convenient drawers at waist level, shelf space at work table height, and easily accessible shelves at eye level. Cool, dry storage space is provided in the bottom of the cabinet.*



heavy, and most of them are un-  
esthetic in appearance, if not down-  
right eyesores. With their ungainly  
vertical structures and large doors  
swinging outward, they are difficult  
to fit into well-planned kitchen lay-  
outs.

The postwar refrigerator should  
have drawers at waist level, with shal-  
low shelves from the top of the  
drawers up to eye level or a little  
higher. The lower portion of the  
cabinet should be given over to cool,  
dry storage space for articles for  
which there is only an occasional  
demand. The refrigerator cabinet  
should be sloped inward at the bot-  
tom or undercut at the base to pro-  
vide comfortable toe-room when  
standing in front of it.

There is plenty of room for im-  
provement in washing machine de-  
sign. Not only must comfort and ease  
and safety of operation be studied  
scientifically with a view to increas-  
ing the usefulness of washing ma-  
chines, but here again there is  
plenty of room for improvement in  
the mechanical efficiency and appear-  
ance of the finished product.

#### **The bathroom — simplified**

In the bathroom there is a par-  
ticular need for improved styling,  
simplification of fixtures and appli-

ances. A considerable economy  
could be effected, for example, by the  
installation of a tub and lavatory as  
a single fixture, utilizing the same  
plumbing outlets. There is nearly  
always need for additional storage  
space for towels, linen, etc., in the  
average bathroom. Standardized cabi-  
nets, chests of drawers and lavatory  
units can be designed and planned  
for easy expansion upon basic units.

New materials and finishes devel-  
oped in recent years also must be  
studied in connection with re-design  
of bathroom equipment. Some manu-  
facturers are studying the possibility  
of designing bathtubs and shower  
stalls of molded plastic or plastic-  
bonded plywood. Well designed units,  
incorporating towel-driers, storage  
drawers, and clothes hamper, also  
would find ready acceptance. Far  
more study and attention must be  
given the problem of lighting in the  
bathroom. Here, good arrangements  
of fluorescent lighting fixtures in-  
corporated into the design of mirrors,  
cabinets, and lavatory will play an  
important part.

#### **Industrial product and market research**

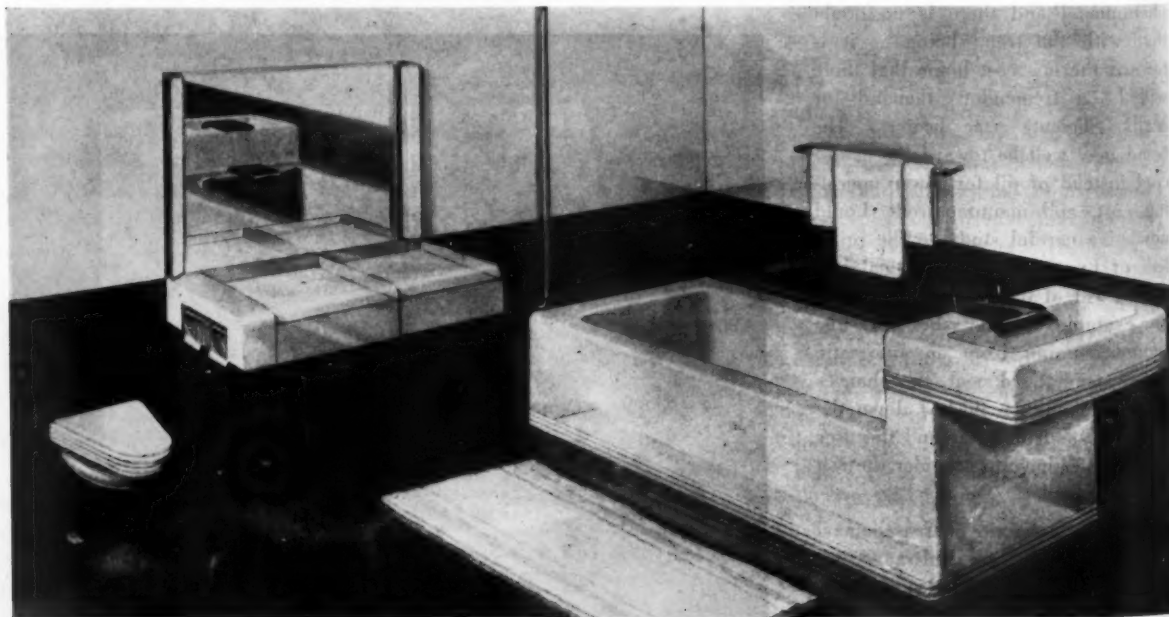
Industrial design and product de-  
velopment are a part of research. The  
chemical industry in 1940 spent

3.4% of its sales dollars in research.  
Today, it is averaging better than  
4%. According to the April issue of  
Sales Management, the balance of all  
other industry is spending about 2%  
of its sales dollar on research. Small  
companies spend more in relation to  
sales income than larger companies.  
The problem of finding new products  
and improving your present products  
and finding out what the consumer  
wants — of developing, styling and  
engineering products of greater con-  
sumer acceptance at a competitive  
price that the consumer can afford  
to pay — all this is part of research.  
Today it is certainly the best way  
that industry can invest their money  
since it is an investment in the future  
health and growth of the company.

Another important point, industry  
is spending far more money on indus-  
trial research than they are on mar-  
ket and consumer research. Accord-  
ing to a survey made by duPont  
several years ago the average Amer-  
ican industry spent seventy-five times  
as much on industrial research as  
on market and consumer research.  
This proportion is completely out  
of alignment. American industry  
is phenomenal in its ability to pro-  
duce goods efficiently and cheaply,  
but has yet to lick the problem as to

to Page 44 →

*In this suggested bathroom for the future, the tub and lavatory are designed as one unit to gain plumbing economy and ease of installation.*



# Ceramic finishes help eliminate the fire hazards of wartime housing

By *George I. Blome* • VICE PRESIDENT

AND *George Wiese* • ENAMELING SUPERINTENDENT  
BALTIMORE ENAMEL & NOVELTY COMPANY, BALTIMORE, MARYLAND



The urgent need to provide serviceable living quarters for millions of soldiers, sailors, defense workers and their families created a demand for thousands of temporary and semi-permanent buildings to meet war-time needs.

Both the number required and the time element involved could only be met by the efficiency and the speed of a comparatively new technique of building, which is generally referred to as "pre-fabricated construction."

One of the problems confronting architects and builders in the use of non-fireproof materials was provision for safe and adequate chimney flues which could be manufactured in quantity, quickly assembled on the job, and yet would insure safety in use.

Fortunately a development along this line had been taking shape during the few years prior to the war, and the porcelain enameling industry was ready with a suggested solution that was practical from a production standpoint, economical in cost and had sufficient field use to work out the "bugs."

## Porcelain enamel flues

### answer a problem

Our company consulted with National Housing authorities and submitted designs for porcelain enameled flues, using asbestos insulation and designed in sections for easy assembly. These were carefully tested and, following approval, production of the flues was soon under way in huge volume for various housing projects. Original plans prepared by the Army and Navy called for galvanized sheet

iron flues in barracks and other temporary buildings. This material was not suitable for extended use due to the corrosive effects of combustion gases, sulphur containing fuels and condensation.

War Department engineers were quick to recognize the advantages resulting from the use of porcelain enamel for this purpose, and plans prepared by Baltimore Enamel and Novelty were eventually inserted into the standard mobilization building drawings for optional use by post engineers.

In addition to housing projects of many types, Army camps and Navy installations are now equipped with thousands of these porcelain enameled flues, which are giving excellent service and proving their value more and more as time goes on. Recognition of the resistance of these porcelain enameled flues to corrosion is indicated in the fact that they are specified on all new construction by the U. S. Army in coastal areas and in other areas where the fuel contains more than 2% sulphur.

In many camps where galvanized iron was originally installed the flue pipes are now being replaced with porcelain enameled iron to eliminate the necessity of repeated replacements.

## Tents also protected

It was a logical step from the use of porcelain enameled metal flues for housing to similar developments for the proper fire protection of army tents, and tent hoods, spark arrestors and tent shields were later included in the list of items on which ceramic type finishes were specified.

Tent hoods are used as a cover at the point where the supporting pole

is located, and as an outlet for the flue pipe. Spark arrestors, as the name implies, are shields placed over the outlet end of the flue pipe; and tent shields are used to protect tents where the flue passes through a vertical surface.

Formerly specified in galvanized iron, these parts are now finished in either porcelain enamel or the new low temperature alumina silicate coatings.

In the early stages of the development work on these parts we cooperated with the Jeffersonville Quartermaster Depot and the Office of the Quartermaster General in Washington by making up sample tent hoods, spark arrestors and shields finished in porcelain enamel, low temperature alumina silicate coatings and "high temperature" alumina silicate coatings.

## Both porcelain enamel and alumina silicate coatings used

After extensive testing by Quartermaster Corps, detailed reports of the findings were made and the ceramic type finishes approved for production. Since that time thousands of tent hoods have been supplied by our company and other companies in the industry.

For the most part our production on tent hoods has been supplied in porcelain enamel ground coat, with a thin second coat of high temperature alumina silicate coating for camouflage purposes only. The tent shields and spark arrestors are finished with the low temperature ceramic coating.

Some tent hoods were produced in two coat porcelain enamel, and in this connection a special dull or semi-matte finish was required in standard



*Tent hoods are of spot welded construction. A battery of Ace & Thompson automatic welders are used.*



*Applying the camouflage coat of "high temperature" alumina silicate finish over a standard porcelain enamel ground coat.*

*A group of semi-finished and finished tent hoods as used for protecting army tents. Five hundred of these are produced daily at Baltimore Enamel.*



olive drab in order to afford the proper camouflage effect.

Inasmuch as the natural finish of the alumina silicate coating was matte, it was only necessary to provide these in the olive drab color to answer the camouflage requirements.

#### **Spot welded construction**

Several methods have been evolved for the fabrication of the tent hoods, but in our plant we use a complete spot welded construction throughout, using a battery of Ace and Thompson automatic welders.

#### **Flexibility in plant**

##### **operation required**

Our schedule called for the production of 1200 spark arrestors per day, and 500 tent hoods, in addition to a great deal of other work requiring ceramic finishing — including refrigerator parts, stove parts, smoke stacks, chicken troughs, stove pipes, etc. This type of work, of course, involved only our sheet metal fabricating and enameling divisions. Other sections of our plant had been busy on such products as assembly and testing of various items of war equipment.

The fact that the miscellaneous work being run involves the use of at least three different types of ceramic finishes, careful scheduling of equipment is important for efficient operation.

#### **Same pickle room used**

Cleaning and pickling of the steel parts isn't a serious problem, inasmuch as we use the same tank setup in preparing metal for both porcelain enameling and the application of alumina silicate finishes, except in the latter case a separate neutralizer tank is used to meet the specifications for this type of finish.

#### **Applying the finishes**

On the tent hoods, which are fabricated of 24-gauge metal, we apply a standard ground coat, fired at 1500° F., in a box type furnace. (Our continuous furnace is used for refrigerator parts, stove parts, etc., on which cover coat enamel is required.) The camouflage coat for the tent

AUGUST • 1944 finish

hoods is a very thin spray of the high temperature alumina silicate coating, which is fired at 1450° F. in a box type furnace.

To coat the spark arrestors we arranged for a standard double enameling spray booth, both sections of which are equipped with turn tables. The operator in the first booth catches the inside of the part, and the operator in the second booth the outside, so that speedy production is attained.

In our experience with the low temperature coating we found it desirable to have the wet, sprayed parts enter the drying room at from 210 to 250° F. Our experience is that this will prevent "skin" drying, and blistering is avoided in the curing operation.

By using this method of drying we have found it possible to cure the alumina silicate finish in a standard box type enameling furnace.

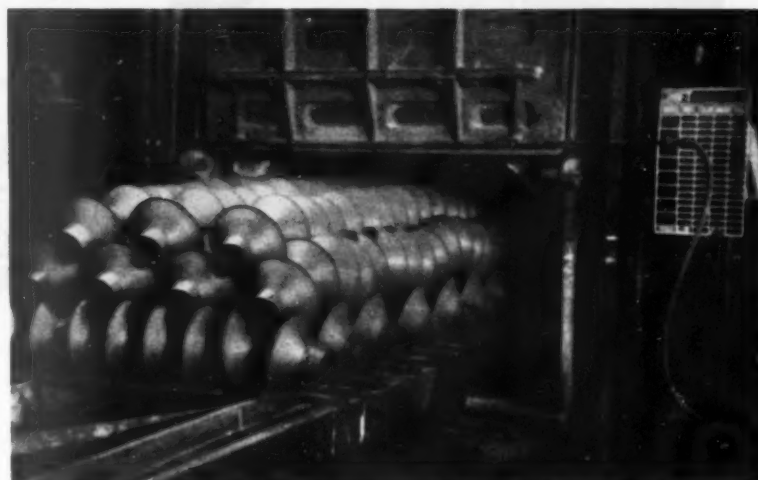
#### **Wartime application may meet postwar needs**

There remains no question that porcelain enamel and the other ceramic coatings have offered a definite service in the wartime applications described. Where the stacks and other metal parts for fire prevention had often quickly deteriorated in less than one season's use, it is easy to see where the permanence of the ceramic coatings, and the fact that they can be offered in standard Army olive drab, have answered a definite problem for war housing and temporary structures.

Architects are now pointing to the desirability of eliminating heavy masonry flues in many types of permanent homes planned for postwar building. With the experience gained by our industry during the war in the use of ceramic finishes for this work, there should be an excellent opportunity of interesting architects and builders in these light weight, comparatively inexpensive stacks to meet their demands. Designs, of course, must be carefully worked out, so that they can gain unqualified approval of the necessary authorities, if this new market is to be put over successfully by our industry.



*Twin turn tables and two sprayers are employed in applying the "low temperature" alumina silicate finish to the spark arrestors.*



*A load of coated spark arrestors emerging from the box type furnace in which the olive drab finish is cured.*

*It's good to again see some activity in enameling plants. Porcelain enamel ground coat is being dipped and hung on the continuous-drier conveyor.*



## A "flash-back" to the Mid-Year Meeting

of the Institute of Cooking and Heating Appliance Manufacturers

(See Finish for July)



Left: Floyd-Wells' sales manager, "Bill" Goddard. Right: Hardwick Caldwell, president and treasurer of Tennessee Stove.



Below:

OPA's Charles Slabey; Donald Wood, Durable Goods & Products Div., O.C.R.; and Estate Stove's A. M. Kahn.



Left: "Jim" Mitchell, Cooperative Stove's president, caught in an attentive pose. Right: T. M. Sourbeck, general manager of American Stove, Lorain. Below: "Ernie" Hommel of O. Hommel Company, Pittsburgh; Caloric Gas Stove's president, "Nate" Kelin; and Ed Meeney of Youngstown Sheet & Tube enjoy the banquet.



FINISHFOTOS



# An answer to the erection problem

## for architectural porcelain enamel

By *M. van der Kloet* • GULF OIL CORPORATION, PITTSBURGH, PENNSYLVANIA

**M**ANUFACTURERS of architectural porcelain enamel are faced with a problem which is foreign to other enameled products, namely the erection of the material. Proper application of the material is essential to the success of architectural porcelain enamel. Most architects, contractors, and building trade craftsmen were not familiar enough with your material and its various methods of application to handle the erection without proper guidance, and the enameling companies started to arrange for this guidance or began erecting the material with their own forces. Probably without realizing it, the enameling companies were directing a specialized field of erection work.

Different methods were used as an answer to their erection problems and, in the majority of cases, satisfactory results were attained. Naturally, they have also had unsatisfactory experiences with some of these methods. It is also natural that a few bad jobs of erection can do more harm to the entire industry than a large number of good jobs can overcome. An unsatisfactory project of one company reflects not only on that company but on the entire industry.

When an erection job is not satisfactory, the outsider does not stop to ask which enameling company furnished the material, who erected the job, who caused the delays, or why the job was not right. He decides that *porcelain enamel* is not good.

If the manager of a large chain of retail stores was considering porcelain enamel facings for his stores, he would be more impressed with a finished job he has seen somewhere than with all the attractive literature

and fine presentations of the enameling companies' salesmen. If that one finished job should happen to be unsatisfactory, it would be a real task to convince him that the trouble with that job was entirely due to a local erector who really did not have any connection with an enameling company and did not know how to erect



Mr. van der Kloet

the material, but that the enameler can produce beautiful enamel and can erect the material in an excellent manner. The failure in producing a satisfactory job by a competitor is a setback for all.

Enamelers know the difference between excellent enamel and enamel which is not quite as good, but in general the outsider does not appreciate this difference. An outsider judges the result during and after erection and often the value of the material is judged more by its erection than by the quality of the material.

The customer judges a company not only by its material, but mainly by the trouble he experiences in de-

liveries, time required for erection, the workmanship of the erection, the width of the caulking joints, and the personality of the erection foreman. Good erection and good erectors are of the utmost importance.

The enameling companies made different arrangements for the handling of the erection of their material. Some companies established agents or distributors, who handled the sales phase as well as the erection. Some of these agents were capable of handling their assignments and had good results, while others (probably the majority) were small business men without sufficient architectural or engineering ability, sometimes without sufficient financial resources and often not equipped to handle the erection of porcelain enamel in a satisfactory manner.

Some enameling companies did not accept the responsibility for the erection of the material, in fact, accepted only orders for the production of the porcelain enamel. Often such orders were obtained through manufacturers' sales representatives. These men sublet the erection of the porcelain enamel to local erectors; sometimes resulting in satisfactory jobs, more often resulting in jobs which were not a credit to the porcelain enamel industry and did not do justice to the excellent qualities of the material.

Other companies set up an organized erection department with skilled and capable erectors, who handled the application as foremen on the job, assisted by local labor. This method resulted in better application of the material and greater satisfaction of the customer. However, this method is only practical for those concerns who handle a substantial volume of



*Service station located at Cleveland St. and Poplar Ave., Memphis, Tenn. An all metal building fabricated and erected by the Cincinnati Mfg. Co. Davidson Enamel Products, Inc., furnished the porcelain enamel.*

architectural porcelain and when sufficient jobs are secured in the same areas so that traveling time loss and traveling expenses are reduced to a minimum.

For an individual job located far away from the enameling companies' headquarters, the expenses involved in traveling and the time lost for traveling may be substantial.

Some have the impression that the troubles with the erection of porcelain enamel have not been serious, that most of the troubles have been exaggerated and that some of them have been only imaginary. I agree that most of the troubles have been of a minor nature, but minor difficulties can easily be blown up to proportions of catastrophies by customers who do not like to part with their money, by contractors who need some excuse to hide their own shortcomings, or by competitors who are handling other building facing materials. The porcelain enamel industry is held responsible for anything which is not entirely satisfactory, and is going to be held responsible for a long time. I have had contact with a large number of installations which were handled in a very satisfactory manner and yet my memory seems to be much clearer in relation to the

comparatively few jobs where we ran into some kind of trouble.

I remember when:

1. An agent obtained a contract for facing an existing building with porcelain enamel. He awarded the contract for the production of the enamel to an enameling company, while he took the responsibility of measuring, detailing and erection. Not being an engineer himself, he engaged a draftsman who had no previous experience with porcelain enamel to assist him. These two men measured the building in the evenings after dark with the aid of flashlights. While an experienced engineer would have measured the building in four to six hours, they spent six nights measuring it. The preparation of detailed drawings was a major project to them and took three weeks. When the porcelain arrived on the job they were quite pleased that everything fit so nicely, *except only a dozen panels.*
2. At another location, porcelain enamel had to be applied to a new masonry building where the porcelain enamel coping had to cover the entire parapet wall. The general contractor had completed the

masonry, the wood plate on the parapet wall, the roofing material and the proper flashing over the wood plate. The porcelain enamel erector had a little difficulty with the installation of the porcelain coping and to make his material fit, he found it necessary to take an axe and cut a 2" deep trench through the flashing, the roofing material and the wood plate for the entire length of the parapet wall.

3. I do not intend to discuss here which kind of lumber is best suited for furring material, but I do not believe that any one recommends the crating, in which the porcelain enamel is shipped to the job, for this purpose. I have seen this used by more than one erector. Building authorities, good contractors or architects can not be expected to approve such practices.

I will not give you any more examples of difficulties with the measuring and the erection. It is recognized that erection can be a source of worry and financial disappointment. If each architectural porcelain enameling company could establish a well organized erection department, under able engineering supervision and with capable erectors, some of the past

difficulties would be eliminated.

The responsibilities for such an erection department would be:

- a. Scheduling of erection jobs.
- b. Coordinating production and erection.
- c. Meeting building code requirements.
- d. Securing permits from building authorities.
- e. Meeting labor union requirements. (Considering union jurisdiction)
- f. Coordination with building contractors and other trades.
- g. Obtaining auxiliary materials (furring, hardware, caulking compounds, etc.)
- h. Complying with workmen's compensation and other insurance requirements.
- k. Supervising erection personnel.
- l. Supervising workmanship of erection.
- m. Controlling erection expenses.
- n. Avoiding all possible delays.
- o. Quickly meeting unforeseen field problems.
- p. Handling adjustments (defective or unsatisfactory material).
- q. Handling justified adjustments of erection contracts.
- r. Obtaining owner's approval upon completion of work.
- s. Obtaining legal advice in un-

usual situations.

- t. Continuously creating a favorable impression for the porcelain enamel industry with owners, architects, building authorities, labor unions, contractors, and other trades on the jobs.

To handle all these requirements, each erection department should be under the supervision of a capable engineer, with contracting experience and understanding of building codes, labor unions, erection costs and authority to act without delay.

The volume of architectural porcelain enamel for most enameling companies is too small to establish such well organized erection departments for each company. The expenses for each company in maintaining a first-class erection department would not be justified, but still the interest of the industry and the interest of the customer require efficient and capable erection service.

In many fields, the war has taught us the value of united effort. I believe that here is an opportunity for the united efforts of the enameling companies to establish a combined *national erection service, entirely devoted to the erection of architectural porcelain enamel, an organization of skilled and well trained personnel in different parts of the country, under*

*capable leadership, a service in which each enameling company can have confidence that their material will be erected in an efficient, economical and satisfactory manner.*

The basic principle of such an erection organization should be to work in the interest of the Porcelain Enamel Industry and to relieve the enameling companies of the worries and complications of the erection, and therefore it seems logical that the enameling companies should have the controlling interest in this erection company. There is a profit angle to be considered too. An erection company can and should be operated to make a profit and the stockholders are entitled to these profits.

Every employee of the erection company should be trained to be a booster of the porcelain enamel industry and every erector should be trained to be a worthy representative of the company whose material he is applying. The erectors must leave a favorable impression on all contractors, architects, building authorities and customers, for to them the erector represents the industry and the enameling company. The erector is an important factor in the sales promotion of porcelain enamel.

The erection company should be thoroughly familiar with individual

Night view of Gulf service station located at Cincinnati, Ohio, Hackberry St. and Madison Rd. Another all metal building by the Cincinnati Mfg. Co. Porcelain enamel produced by The Erie Enameling Co.



engineering practices and methods of application of every enameling company, and every erector should install the material strictly in accordance with the methods and instructions of the company whose material he is erecting.

After the termination of Government War-Time Building Restrictions, all producers of architectural porcelain enamel will be faced with the problem of erecting their material. Experienced erectors will be scarce. Training new men and organizing new erecting departments would be costly to each separate enameling company and many reconversion matters in the production would require the full attention of the company's management. Former agents or distributors, who had experience in erection, may no longer be available.

The establishing of an erection company now for active operation after the war would relieve the enameling companies of a heavy burden later.

*The formation of such a company will require time and should be completed before war-time restrictions are lifted.*

Until active operation after the war would commence, only small expenditures for organization and

incorporation of an erecting company would be involved. Since no plant or heavy equipment is required, the capital investment would be very small. Most enamel erecting jobs consume little time so that the required operational capital also would be small.

#### **Enamelers should control their own erection company**

Interests outside the porcelain enamel industry could be easily persuaded to form a porcelain enamel erection company which could operate on an attractive and profitable basis. It is questionable if such a company, sponsored by outside interests for profit, would ultimately contribute to the benefit of the porcelain enamel industry as a whole. There is a possibility of favoring one or more enameling companies to the detriment of others.

Only an erection company controlled by the participating enameling companies would assure the desired benefits to the industry.

There is no reason why an erection company should disturb relations between some enameling companies and their agents, distributors or representatives who have given satisfactory service in the past. Instead of eliminating or competing with such

agents, the erection company should take full advantage of the services of those who can give reliable and satisfactory installations in their territories. Some additional training, supervision, guidance, establishment of uniform requirements of procedure, estimating, reporting, installation and financial arrangements would permit such agents to tie in with the erection company, to the mutual benefit of the agent as well as the enameling and erection companies. Short thorough training given by the right type of instructor will develop good erectors. It does not take a four year college course to make a good porcelain enamel erector out of a good carpenter or a good sheet metal worker. Some of the past troubles were caused by erectors who had little or no instruction and some of them were not even good tradesmen to begin with.

Companies who produce specialized porcelain enamel for interior application could avail themselves of the service of a national erection organization, and many erectors who have handled only interior installations in the past could be tied in for all erection work.

If erection crews are established in various parts of the country the

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*A third type of Gulf station, at Center, Commercial and Freeport Aves., Aspinwall, Pa. The architectural porcelain enamel was furnished and erected by Porcelain Metal Products Co. of Pittsburgh.*



# The how and why of sign advertising

By Ken M. Davee • DAVEE, KOEHNLEIN AND KEATING, CHICAGO, ILLINOIS

## PART V • Sign copy

Exclusive  
feature  
finish

The subject of Part V has to do with the writing of sign copy. It does not refer to the layout, color,

design of lettering, nor to any element except the selection of words. The term "copy" is popularly used to sum up everything that goes on the face of the sign; the wording and the complete layout and design. So in order to distinguish between terms in this discussion, "copy" is confined strictly to selection of words. The other elements of design, color and proportion are grouped under the word "layout."

When this series was in the planning stage, it was discussed with the advertising manager of one of the country's largest companies. He called in his staff of able copywriters and the outline was read for their suggestions and criticism. When the subject of sign copy was reached, they looked at one another questioningly. Obviously they challenged the practicality of attempting to lay down any principles for sign copy. Their criticism was summed up by the advertising manager in this comment:

"I'm not at all sure you can say anything about sign copy. What does anyone know about it? Who can say what is good sign copy and what isn't? I think you should skirt that subject very carefully."

### Empty sign copy is costly

In answer to this criticism it was held that empty claims on signs, just as in any other advertising message, were largely a waste of advertising dollars. By empty claims was meant such phrases as: "Blank's, the Fastest Growing Store in Center City,"

"The Midwest's Quality Ice Cream," and "White's Dairy, Where Service Comes First." It was the further opinion of those present that the available facts concerning sign copy are so limited as to leave no safe ground for criticizing copy.

Few sign users have made tests to measure the effectiveness of various kinds of sign copy. Most of those who have refuse to put their conclusions into general use. One agency that specialized in hotel accounts reported the discovery of a certain technique of demonstrated value. It was successfully used on large painted bulletins. They found their most effective signs are located about fifty miles outside the city. And yet, examination of the copy revealed nothing unusual; merely the announcement of the name and location of the hotel, and a statement of the lowest price range of rooms.

### Tests benefit copy

Deeper study of the copy, however, might reveal the same sort of response discovered when a national advertising agency checked its results from two advertisements. One said "a good night's sleep," the other "a good night's rest." The former phrase doubled the sales effectiveness of this copy for a chocolate drink, as proved by keyed magazine space. It seems reasonable to assume, then, that a change of no more apparent significance is likely to have the same results in sign advertising copy.

In recent years much attention has been given the problem of making advertising copy more productive wherever it appears: in newspapers, magazines, on poster boards, or in signs and spectacles. Certain principles have been developed, princi-

ples that good agency copywriters have known and practiced since the days of Claude Hopkins, famous Lord and Thomas writer.

These principles as applied specifically to sign advertising are discussed in the following paragraphs.

### The purpose shapes the message

The message on a sign depends first upon what it sets out to do. If it is merely name identification, supported by more interpretative campaigns in other advertising media, then the single name of the product is enough.

When a sign must plant a buying thought—as in the case of a sign advertising a hotel to travelers who have never heard of it; or, as in the case of Burma-Shave, where it must get an idea over to the swiftly passing motorist—the copy must be given considerable thought.

Likewise, a message for a spectacular (which may not be changed for a period of years) must be studied even more carefully than, the more transient type of sign copy. The theme chosen must be basic; only in this way will it be appropriate during the life of the sign. This, to a lesser degree, is also true of all signs; yet news interest, special styling and immediate appeal are permissible to the transient sign where it might be ruled out of the more permanent sign.

### Signs are complete headlines

Because of the limits of space and the necessity for bold display, it seems reasonable to assume that the broad principles of advertising applying to headlines might also be helpful in creating sign copy.

From tests made by John Caples, keyed copy exponent, the headline is

The "bright idea" is no good after the signs are up. "Empty sign copy is costly." Copy for every sign is deserving of your best attention.



found to be the most vital single part of printed advertisements. He says in his book, *Tested Advertising Methods*:

"There are sixteen chapters in this book. Four of these chapters, or one-fourth of the entire book, deal with headlines of advertisements. But even four chapters are not too much space to devote to this vital subject. Headlines are extremely important. They are the telegraphic messages which the advertiser puts in big print for the public to read. The majority of the public reads little else."

The effectiveness then of printed advertisements depends in great part upon the headlines. Since sign copy is for the most part "headlines," the five general rules for the writing of headline copy set up by Caples as the outcome of his tests of keyed copy should be studied by all writers of sign copy.

#### Five rules for writing headlines

1. Try to get self-interest into every headline. Make your headline suggest to the reader that here is something he wants.

Old stuff, you'll say. Hasn't every advertising man at some time or other said the same thing? Of course. Yet over and over again advertising men — and many of those responsible for sign copy — violate this principle.

#### Suggesting advantages

First, then, consider examples of signs in which this principle is followed:

"Makes your dishes shine, clothes white, home spotless" — Diff Cleaner.

"Get your plugs clean for greater power and pep" — AC Sparkplugs.

"To help prevent many colds; to end a cold quicker" — Vicks Vapo-rub.

"Outlasts three ordinary brushes" — Prophylactic.

"Half a pound for half a dollar" — Burma Shave.

Next observe how other signs violate the principle of seeking the self-interest of the passerby:

"Best chew ever made."

"Treat yourself to the best."

"World's finest motor oil."

Those three signs are not saying anything of direct interest to the people they are trying to reach. They're talking about their own selfish interests. So many refiners have made the empty claim "World's finest motor oil," that unless the words are supported in other mediums by specific benefits of interest to the buyer, readers will never accept the statement. And even with the support of other and more accurate advertising, the value of the sign is doubtful. How much better is this simple statement by Simonize: "Makes cars stay beautiful." And what an improvement this is over a vague boast which might have been made, such as: "Best car polish in the world."

2. If you have news, such as a new product, or a new use for an old product, be sure to get that news into your headline in a big way.

Because most signs remain in service from a few months to several years, sign copy in most cases cannot make use of day-by-day news appeal, unless we can except the "news bulletin."

Where the animated message is used, it might be well to remember that the effectiveness of the copy is increased if it is changed daily or, at most, weekly if people who pass frequently are to be kept interested.

#### High cost of interest lost

As an example of how interest can be lost, take the case of the animated strip sign operated by a railroad in an ideal location in a large city. The same copy is used on this sign for weeks, and sometimes months, at a time. There can be no sparkle of news in it for the thousands who might see it every day if given some reason to look at it. And because they are given no reason to look at it for long periods, they are likely to miss it even when it is changed.

AUGUST • 1944 finish

They have been "conditioned," as the psychologists say, to the fact that it will never appeal to their self-interest.

Yet this spectacular represents the expenditure of thousands of dollars in original cost and maintenance, and it occupies one of the choice locations in the city. Only a small fraction of its potentialities are realized, and yet the owners are well satisfied with that fraction of return — another striking example of the economy of sign advertising. If the advertiser spent a little more time and thought getting the sparkle of news in his copy, he could increase his return many times. But sign advertising is so inexpensive that it pays for itself even when operating at a fraction of its potential efficiency.

#### Sign copy that's newsy

Sign users can inject news by using devices that permit a change of pace. Interstate Displays, with their highway sign service, attract attention to a series of commercial signs by an

occasional sign directed at a historical spot or by a sign that entertains the sign reader with catchy sayings.

The familiar service station sign of the National Refining Company, the boy with the slate, permits frequent changes in copy. Ideas for such signs are supplied to the station managers by advertising headquarters.

One of the most thoroughly read features in the daily newspapers, according to the Gallup poll, is the weather report. Sign users capitalize this news interest by building their signs around thermometers. Extensive users of such signs include Kool cigarettes, Prestone and other anti-freeze compounds, and coal companies. The association in these cases is obvious. Others who use the thermometer merely as a device for calling attention to the name of the advertiser include newspapers, patent medicine manufacturers, and battery manufacturers. They count on the interest in the thermometer itself to gain attention for their signs.

Clocks serve the same purpose. A persistent user of the "clock-sign" is Chevrolet Motor Company, which has several built into large spectacles.

Reader interest in the thermometer and clock signs is apparent the moment they accidentally fail to record the proper time or temperature. Chevrolet's advertising department reports that their office receives many calls when the clock on their Detroit sign is a few minutes late. A stoker company's advertising manager hears about it when the thermometer on his sign goes temperamental. People use these signs much as they use other conveniences and they naturally dislike to see their conveniences out of order.

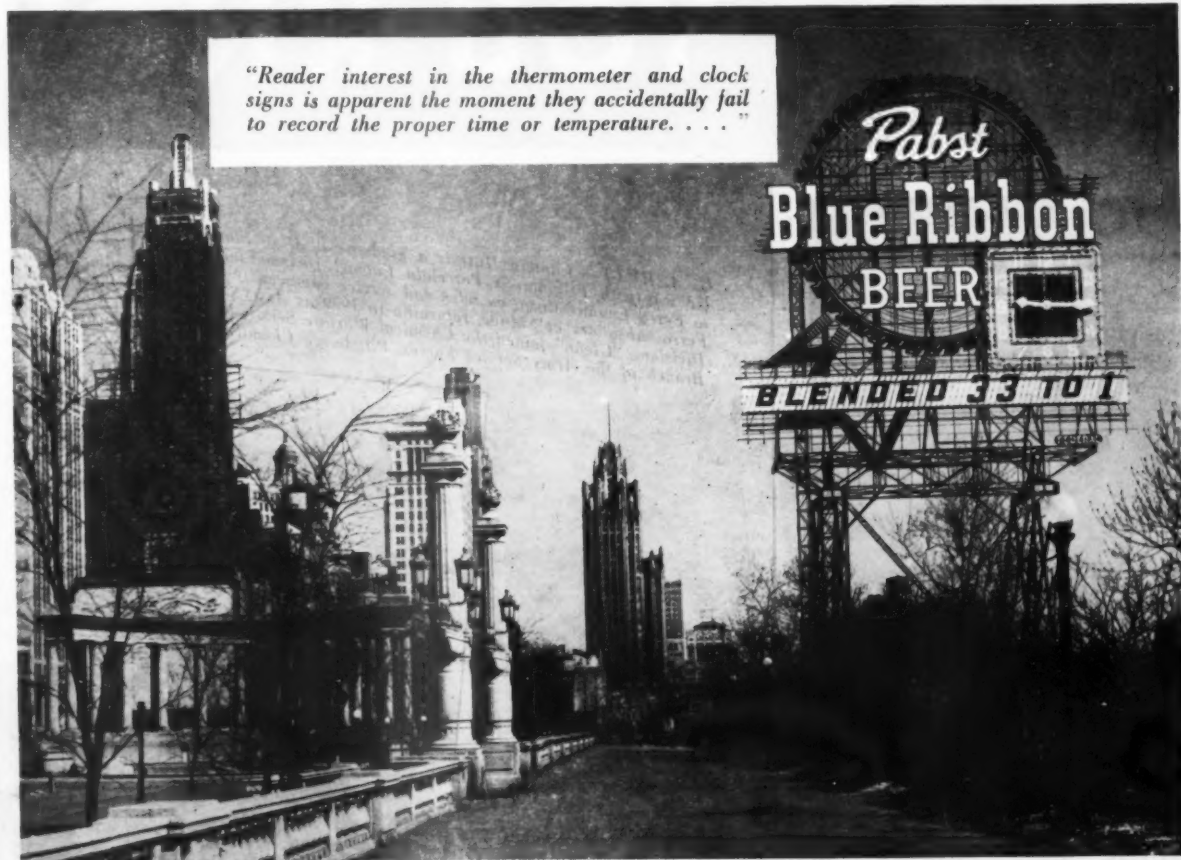
Caples' third rule is:

3. Avoid headlines which are merely curiosity headlines.

Curiosity copy is rarely used in sign advertising, because additional text is necessary to explain the "catch." Space is too limited for this, to say nothing of the time a

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PHOTO COURTESY FEDERAL ELECTRIC COMPANY





**W. R. GREER**—"Russ" is one of the industry's veterans. He joined Pemco Corporation in 1921; later became sales manager, vice president of the company, and in 1940 was elected to the Board of Directors. He is a charter member of the P.E.I. and was active in its formation. While engaged at present in the supervision of Pemco's war efforts, "Russ" still finds time for contacts with the trade, but little time for his hobbies of craftsmanship and model building, fishing and golf.



**L. E. BARRINGER**—General Electric's engineer of insulations has spent a lifetime studying insulations and porcelain compositions. He was graduated from Ohio State University in 1902 with an E.M. in Ceramics. In 1933 O.S.U. gave him the degree of Cer. E. He has held his present position for nearly 33 years, and has been granted 25 U.S. patents covering insulating and ceramic compositions. Active in ceramic society work, a number of Dr. Barringer's technical articles on ceramics have been published.

## PEOPLE YOU KNOW



**G. A. HUTT**—Captain Hutt is a graduate of Ohio State U. in Ceramic Engineering. He was with Frigidaire's Porcelain Enamel Division for several years. He then went to Ferro Enamel Corp. as sales and service engineer. Next, to Australia to manage the Ferro subsidiary at Sidney, returning in 1939 as Asst. Sales Mgr. of the company's Mfg. Division. "Glenn" joined the Chemical Warfare Service in 1942 and is Chief of the Mfg. Branch of the Army Service Forces, Pittsburgh Chemical Warfare Procurement District.



**J. F. INGRAM, JR.**—As vice president of Ingram-Richardson Mfg. Co., Beaver Falls, Pa., he is one of the enameling industry's youngest executives. "Fred" has spent a great deal of time in the study of architectural porcelain problems and is well versed in this phase of industry activity. He is an ardent golfer, and we warn prospective challengers he is shooting in the low 70's. During his college career at Dartmouth he was a top-notch tennis player in the Eastern inter-collegiate circles.

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**E. C. HUERKAMP**—As manager of the Westinghouse Lighting Division, he's concerned with commercial, industrial, street, aviation, marine and flood lighting. "Eddie" attended the University of Cincinnati, Engineering College. He was with a lighting jobber, Curtis Lighting—then with Westinghouse in Cleveland since 1935. He is chairman of the Industrial and Commercial Lighting Section of NEMA and the Technical Committee, RLM Standards Institute and on WPB's Advisory Committee for Aviation Lighting.



**J. CARPENTER**—Native of Cleveland and graduate of Princeton University. Served in the field artillery in France during World War I. Became associated with the Dept. of Otis Steel in 1919. In 1926 he became Asst. Secy-Treas. of Otis in connection to his sales duties, and later was manager of sales. He joined Republic Steel in 1935 as Asst. Mgr. of sales, Sheet & Strip Division, and is now manager of sales for this division. John is said to belong to the ranks of the camera bugs.

OR  
SHOULD  
KNOW

# Strictly Candid



**H. E. ROMINE**—As contact representative for Carnegie-Illinois Steel Corp., "Doc" has been active in research and promotion work on enameling sheets, and is now doing important enamel application research work. You'll see him at all A.C.S. & P.E.I. meetings. He attended Harvard Engineering School and was with the Pittsburgh Laboratories of American Sheet & Tin Plate when the company was taken over by Carnegie-Illinois—is now connected with the Metallurgical Div., Sheet & Strip Unit of Carnegie.



**H. KAHN**—Is vice president of The Estate Stove Co., in charge of research, design engineering. Although his father was one of three brothers who built the company, got his training and experience the hard way. He served an apprenticeship in the plant before taking over the duties and responsibilities of chief engineer in the year 1910. Known for his original thinking and creative ability, Kahn is credited with having blazed many new trails in the stove industry.

person will ordinarily give to a sign.

Curiosity headlines frequently fail, Caples says, because the reader will investigate further only when he has the time. On the other hand, headlines that promise benefits he desires will cause him to *make time* to read the rest of the message.

#### **Time to make money**

A successful sales executive said this, when explaining his success in gaining interviews with busy men: "A man always has time to hear how he can make or save money." A sign reader always has time to read about something that appeals to his self-interest; curiosity copy rarely attracts him in this way.

The fourth rule for a good headline is:

4. Avoid, whenever possible, headlines which paint the gloomy or negative side of the picture. Take the cheerful, positive angle.

Famous examples of the halitosis, pink-tooth-brush, and dandruff school of copywriters will probably be recalled. Their copy, however, usually hoists the negative flag immediately; then offers a positive alternative. This offsets the fear appeal. Halitosis is closely related to the hope of happy marriage or social success and the product is used to remedy the ailment. Caples insists that a positive, cheerful appeal in the headlines of keyed advertising has usually proved more effective than negative attention-getters, despite these famous examples.

An amusing sign which has appeared on elevated and other railway station platforms shows a small boy holding his stomach, his hat beside him overflowing with green apples. This is the message: "For upset stomach, Pepto-Bismol." The picture is negative but has humor appeal, and note that the copy is positive with direct buyer appeal.

The fifth and last rule is:

5. Try to suggest that here is a quick and easy way for the reader to get something he wants.

Sign copy that gives directions follows this principle. A notable exam-

ple is advertising sign copy of the Hotel Cleveland in Cleveland, Ohio. It reads "Off the train — up the ramp — into the comfort of the Hotel Cleveland," meaning that the Hotel Cleveland can be reached from the Union Terminal by merely walking up a ramp. The Hotel Pennsylvania in New York has used copy with a similar quick-and-easy appeal. Another example is a Loan Company's spectacular in a large mid-west city, which visualizes the ease of their service with sign copy that reads as a moving hand writes, "Loans on Your Signature Only."

Not every advertiser can use the directional appeal, but those who can have a certain positive advantage. The results, according to tests of copy in other mediums, will repay any advertiser who can develop this type of appeal.

#### **How long?**

As mentioned earlier, the length of the "message" sign depends on what it is expected to do. That is, of course, within certain well defined space limitations. If the sign must do nothing more than identify a dealer or a service outlet, a single word well displayed may be enough. Conversely, if the sign campaign must create a demand for the product without aid from other advertising mediums, more copy will be necessary. The copy in such a case must do the whole advertising job as Burma Shave's original sign campaign did. Other examples of this exclusive use of signs are the campaigns of some hotels and tourist camps not supported by national or other local advertising campaigns. These campaigns must identify the product or service, interpret a feature that will make the reader want it, and, in some cases, tell him where to buy it.

#### **Sales power of words**

Even the copy on signs which does nothing but identify might be improved by the addition of selling words or phrases. Not often do you see a Coca-Cola sign with no copy but the name of the beverage itself. It is usually accompanied by such selling phrases as "Drink Coca-Cola

in bottles," or "The pause that refreshes" or the single word "Refreshing." The addition of a single word or phrase undoubtedly adds selling punch to the copy.

The sales punch packed in a single word deserves the attention of every person writing advertising for signs. Think how much more effective is the complete phrase "Authorized Dodge Service" than the same phrase with "authorized" omitted. Such words as "authorized" presumably have the same sales increasing effect that such words as "bargain," "special," "close-out," and "clearance" have in department store advertising in newspapers. Many advertising men, unfamiliar with department store advertising, are prone to think that these words are worn threadbare. Not quite. Tests indicate that these words still help to make sales. While these same words may not often have an application in sign advertising, they are cited just to show what a difference a single word can make.

#### **Single word helps sell**

The use of a single explanatory word to add sales pull is illustrated in a Chevrolet service sign. Chevrolet makes available to its dealers a 42-inch, well lighted, porcelain enameled, double-faced disc sign in their standard colors with this copy: "Super Chevrolet Service." That single word "super" in the sign undoubtedly catches the eye and adds sales appeal. In their catalogue offering this sign to dealers they suggested that this sign is especially effective for small dealers. The Chevrolet owner who needs service in a strange town is more likely to have confidence in the service outlet with the "super" service sign than he would have in a garage identified with a smaller sign which reads simply "Chevrolet Service." He is more likely to associate this particular sign with an authorized standard established by General Motors.

#### **Add selling punch**

Compare that slight additional cost necessary to add a word with the additional number of jobs the improved message will bring in, and the

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# Booster tanks by Tappan

## help fighter pilots reach Berlin

From bare walls to production in 27 days



Tear-drop shaped booster tanks, which enable U. S. fighter planes to strike deeper inside Hitler's European fortress than ever before, are rolling off the assembly line of the Tappan Stove Company's branch plant at Marion, Ohio, in a crisp challenge to the Axis and other vaunted war production.

From bare walls to production in exactly 27 days with only four experienced personnel on the job is the remarkable feat that has been accomplished. Much of the equipment had to be built on the spot to set up for production that now covers over 57,000 square feet.

When the army signed the contract with the Tappan Stove Company at

Mansfield, it was explained:

"Those booster tanks make the difference between a fighter plane getting to Berlin and not getting there. They are needed just as quickly as they can be built."

The Tappan Stove Company promptly leased the buildings which housed one fuse line of the discontinued Scioto Ordnance Plant at Marion, Ohio, and to W. R. Tappan, who has been in charge of war products contacts at the Mansfield plant, was assigned the job of getting the droppable fuel tanks into production.

Under his supervision and three experienced men from the Mansfield plant, the sprawling Ordnance Works was revamped.

A capable staff of Tappan, W. R. Mabee, superintendent; Ralph Allenbaugh, factory engineer; Roger Ro-

ser, project engineer; and R. W. Blackledge, in charge of production, examined the buildings and planned the renovation.

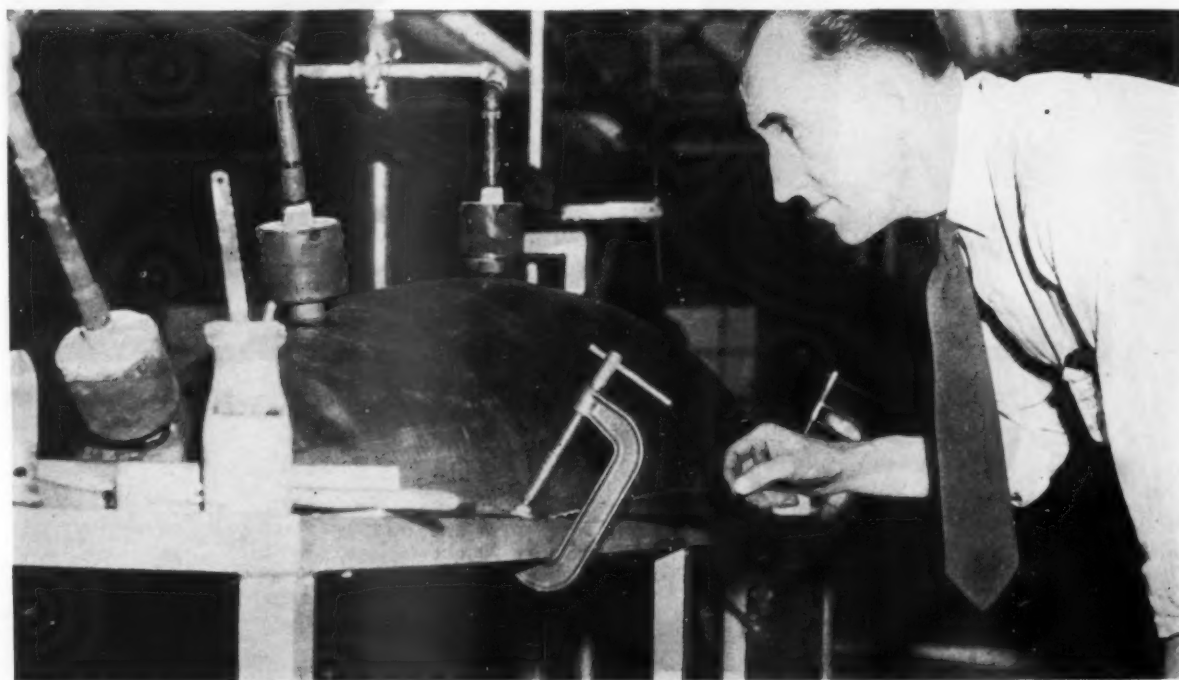
The buildings had to be entirely re-wired to meet the demands of the new undertaking. New poles had to be set outside the plant and equipped with transformers. Cables had to be run into the building.

When this was done electricians and plumbers were hired. Tappan and his aides laid out the assembly line and buckled down to work on the equipment they would have to build on the site.

Meanwhile, a special "slushing machine" was built which pours paint into the tanks, paints the interior and automatically transfers the paint to the next tank without re-handling.

Tank parts were ordered and a

*Tappan's Glenn Miller feeding silver solder into the drain fittings during the brazing operation on the 75-gallon droppable fuel tank.*





*Showing the first completed 75-gallon droppable fuel tank to roll off the assembly line are: Richard Tappan and Ralph Allenbaugh.*

new loading dock was built to unload large shipments of incoming materials, and later to be used for shipments of completed tanks to the Army Air Forces.

As the assembly line began to take shape, the question of labor became

an immediate factor. But a quick response from mothers, sisters and girl-friends of men in the Service solved the labor problem—and today 88 per cent of the personnel is composed of women.

The tank shells arrive at the plant

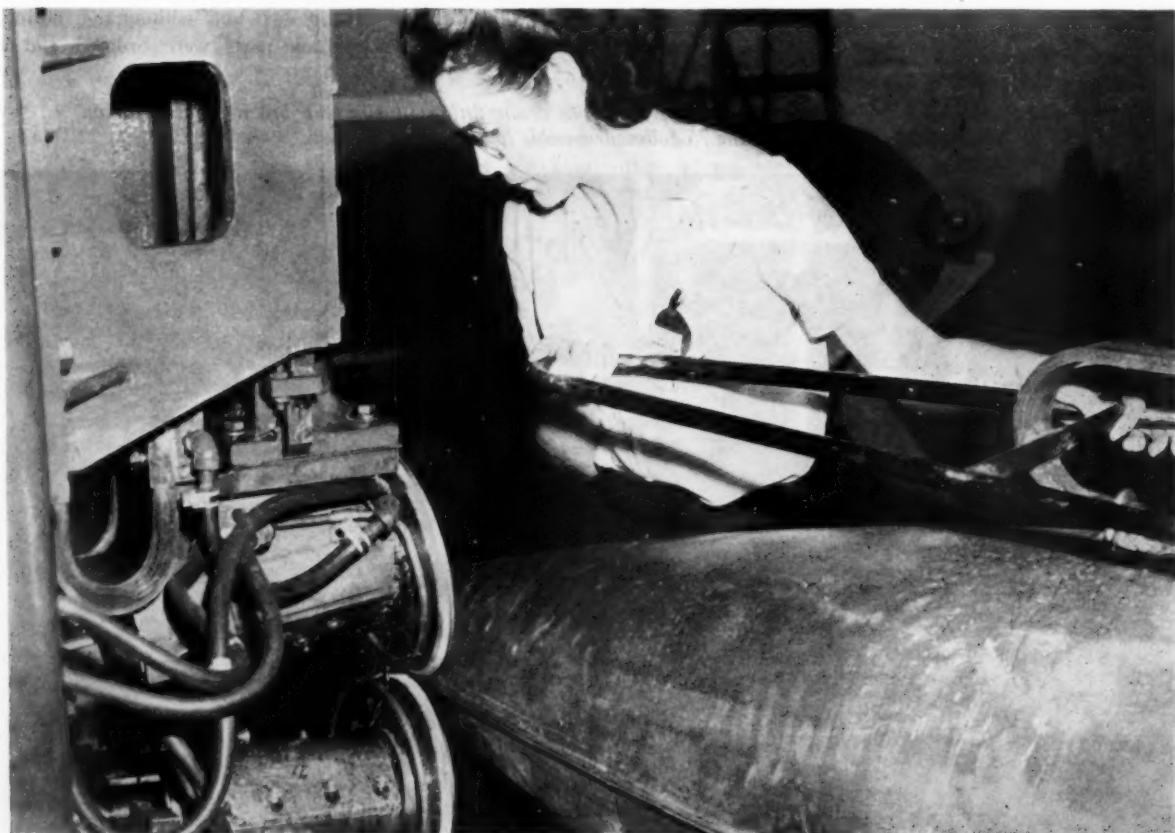
in halves from the Mullins Manufacturing Corporation of Salem, Ohio, where they are fabricated. With gas—which also had to be provided from an artificial installation—valves and intakes are brazed to the shells. Bulkheads, to keep gasoline from “swishing” about and exploding the tanks, are installed.

Hangers, to fasten the tanks to the planes, are riveted on and soldered to prevent leakage.

The halves are then carefully degreased and welded, first with a tack-weld and then with a seam-weld to make them air-tight. The completed shell is tested under water for any possible leaks before it is dried with infra-red rays, slushed with fuel-resistant paint, aereated to remove fumes and again infra-red baked. Upon the completion of these operations, the shells are ready for the three exterior coats of paint, the decal labeling and crating for shipment. Rigid Air Forces inspection is given

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*Here Dorothy Mae Seiter is shown guiding the tack-welded tank on the seam welder, after which it is tested for possible air leaks.*



# NEWS

## Three billion dollars in home repair and modernization indicated

Commissioner Abner H. Ferguson of the Federal Housing Administration, National Housing Agency, recently announced the issuance of revised regulations, effective July 1, on property improvement loans issued by F.H.A.

The regulations, according to Mr. Ferguson, were designed in anticipation of an enormous volume of repair, remodeling and modernization work on residential properties in the post-war market.

He cited a recent survey which indicates that a market of at least \$3,000,000,000 of home repair and modernization work awaits only the relaxing of wartime restrictions on materials and credit.

## University of Illinois grants degrees

Mr. R. L. Cook, Associate in the Department of Ceramic Engineering, received the Degree of Doctor of Philosophy in Ceramic Engineering this June. His thesis was on the "Study of the Durability of Porcelain Enamels" and was reported on in part at the Pittsburgh meeting of the American Ceramic Society.

Mr. C. H. Commons, Jr., was granted the Professional Degree of Ceramic Engineer this June. Mr. Commons graduated from the Department of Ceramic Engineering in

1929, was formerly with the Titanium Alloy Manufacturing Company, and is at present with the Army Ordnance Division. The award was based partially on the outstanding work done for the Ordnance Division, and also on other papers which were submitted as thesis material.

Two Bachelor of Science degrees were granted this June — one to Raymond Moore, who has been employed by the Corning Glass Works and one to Gordon H. Johnson, who is doing special research work in the Department of Ceramic Engineering.

## Thornton is superintendent

Joe Thornton, formerly superintendent of the enameling division at Ingersoll Steel and Disc Company, Chicago, is now superintendent of all night operations for the company's Chicago plant. They are now busy turning out thousands of shell cases, truck wheels for army vehicles, etc.

## Mullins plants honor 20-year veterans

Ten workers in the plants of Mullins Manufacturing Corporation observed their twentieth years with the corporation recently, and were honored with a letter of appreciation from President George E. Whitlock and gifts of \$100 War Bonds.

The eight men honored at the Salem plant included Michael Schwartz,

George Fronius, Wilfred McGaffick, Guy Iagulli, John R. Detwiler, William J. Scullion, Clark B. Fitzpatrick and Raymond King. Each received his \$100 Bond from Andrew MacLeod, secretary-treasurer of the corporation.

The twenty-year veterans at Youngstown Pressed Steel Division are: Richard Wilkes and Mike Hudak, who received their congratulations from Jack Wylam, factory manager.

## Galbreath with WPB

W. W. Galbreath, formerly executive vice president of the Pressed Metal Institute, is now assistant to the president of Heinz Manufacturing Company, Philadelphia, Pa. Currently he is on loan to the Government as head of the stamping division of W.P.B., and in this capacity was present at the recent trustee's meeting of the Pressed Metal Institute. He discussed procedures for securing maximum efficiency in the relationship between the pressed metal industry and the War Production Board.

## J. L. Block returns to Inland



Announcement has been made that Joseph L. Block has resigned as deputy director of the War Production Board steel division. On July 17 Mr. Block returned to his position as executive vice president in charge of sales for Inland Steel Company, Chicago. He is credited with the conception of the idea of *production directives*, which is said to have assisted

to a tremendous extent in connection with the operation of the Controlled Materials Plan.

His successor with WPB is Wm. B. Todd, Pittsburgh, who was formerly assistant deputy director.

#### **Canton-Massillon-Alliance in critical labor area**

In the WMC revised labor market classification, effective July 1, it was reported that the Canton-Massillon-Alliance, Ohio, area has been moved into the Group I areas of acute labor shortages.

The labor market situation in the Canton area (population of 350,000), is said to have been serious for some time, and has now become critical with establishments behind production schedules and in urgent need of 3,000 workers. The report further indicated that seventeen establishments in the area working on "must" programs are behind schedule and in immediate need of workers.

#### **Roper urges home canning**

All during the canning season the Geo. D. Roper Corporation of Rockford, Illinois, is carrying on a comprehensive campaign among dealers and utilities for the promotion of home canning. A variety of dealer helps have been offered to assist in this program. The service includes newspaper mats, a 16-page canning guide with factual information on proper home canning procedures, can labels, summer display material, and large window and store streamers.

According to E. R. Hollingsworth, Roper advertising manager, "acceptance of these materials to date indicates that both gas companies and dealers will do more than ever before to satisfy the desires of Mrs. America for authentic, clear cut information on home canning."

#### **Coolerator to broaden line**

Announcement has been made by J. H. Ganzer, vice president of The Coolerator Company, Duluth, Minnesota, that the post-war line of Coolerator refrigerators will be considerably broadened. The company has

formerly manufactured ice refrigerators exclusively — a line which will be continued as in the past. After the war Coolerator will build a line of farm freezers and home freezers for the storage of frozen food, and in addition will have a line of electrical refrigerators for household use.

#### **NESA secretary-treasurer dies**



Mr. George C. Kirn, Jr., secretary-treasurer of the National Electric Sign Association and president of the G. C. Kirn Advertising Sign Company, St. Louis, died recently of a heart attack.

Mr. Kirn played an important role in the organization of the N.E.S.A. and was chairman of the Organization Steering Committee, which did much of the early work in getting the Association under way. He was considered an important man in the sign industry and, according to Maurice Ely, N.E.S.A. secretary, will be greatly missed by the Electric Sign Group.

The New York Journal of Commerce reports Soda Ash is now being imported from Great Britain into the United States on a large tonnage basis.

#### **Rainbow Division cancels meeting**

Enameler members, or those who have friends belonging to the famous Rainbow Division of World War I, will be interested in the fact that the regular annual reunion was canceled this year for the first time since the organization of the association in

Neuenahr, Germany, in 1919.

Decision to cancel the meeting came as a response to the appeal of ODT due to the current critical transportation situation.

It is reported that scores of fraternal organizations' meetings, conventions and agency plans have similarly been canceled as a relief to overcrowded transportation facilities.

News comes to finish that Rudolph (Rudy) Walchina, formerly with Ingersoll Steel and Disc Company at their Chicago plant, has returned to the organization at their Kalamazoo plant, where he is in charge of final assembly on Ingersoll's amphibian tank production.

When at the Chicago plant, Walchina was foreman of the fabricating department where washing machine tubs and beer barrels were stamped. With the curtailment of steel for these uses, he joined the organization of Conlon Corporation, Chicago.

#### **Fetzer with Sears**



R. E. (Rod) Fetzer, formerly sales manager of Newark Stove Company, Newark, Ohio, is now in Chicago as retail sales manager of the stove department, Sears, Roebuck and Co.

#### **American Porcelain building new plant**

News comes from American Porcelain Enamel Company, Muskegon, Michigan, that their new plant to replace the one destroyed by fire

early this year is now about 80% finished. According to Robert Long, company president, the new structure will be a decided improvement over the former plant.

The report indicates production is already under way in the new plant, with about 75% of the production in heat treating work and frit production for victory ranges and army stoves.

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#### **Westinghouse appoints assistant to vice president**



B. W. Clark, vice president of the Westinghouse Electric and Manufacturing Company, has announced the appointment of John M. McKibbin as assistant to the vice president.

Formerly manager of the Company's Application Data & Training Department, Mr. McKibbin's new responsibility will include all product and industry advertising, in addition to his present duties.

A native of Pittsburgh, Mr. McKibbin joined Westinghouse in 1922 as a member of the promotion division in Pittsburgh.

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#### **Pemco adds electrostatic spraying equipment to laboratory**

A fundamental advantage turned the enameling industry to the early use of the spray gun. Its efficiency shows possibility of being increased tremendously through electrostatic spraying.

Pemco Corporation, Baltimore, Md., report that new electrostatic

spraying equipment has been installed in their laboratories so that the full possibilities of the method can be investigated. It will afford the opportunity for the intensification of research and experimental effort that the company feels this new process deserves.

Electrostatic spraying in the paint field is an already established fact and Pemco lab men feel that there is no good reason why the same economy of effort, the same mechanical perfection and the same economy of operation can not be secured in the field of porcelain enamel.

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Announcement has been made by W.P.B. that Charles M. Stuart, who has been deputy chief of the Special Equipment Branch of the General Industrial Equipment Division, is succeeding Sterling Smith as Chief of this Division's Refrigeration and Air Conditioning Section.

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#### **Conlon Corporation appoints new general manager**



Appointment of I. N. Merritt to be vice president and general manager of the Conlon Corporation, Chicago, peacetime maker of household washers and ironers, is announced by Bernard J. Hank, president and chairman of the board, following Mr. Merritt's resignation as vice president and director of the Electric Household Utilities Corporation, Chicago, and president and director of its subsidiary, the Meadows Corporation, Bloomington, Ill.

Mr. Merritt joined Electric Household as vice president in charge of sales for Meadows in 1934. He became a director of Electric Household in 1937, president of Meadows in 1940 and vice president of the parent concern in 1941. Earlier he was vice president and general manager for eight years of the Grinnell Washing Machine Company, Grinnell, Iowa after having been secretary of Detroit's municipal street railway commission and comptroller of the city's transportation system.

Mr. Hank announced, also, the purchase of the heating pad division of the Eagle Electrical Manufacturing Company, New York City, as part of his concern's program for expansion to a full electrical household line in the post-war market.

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#### **Tennessee Enamel president is Federal Reserve director**

Friends of W. B. Evans, president of Tennessee Enamel Manufacturing Company, Nashville, Tennessee, will be interested in the news of his recent appointment as a director of the Nashville Branch of the Federal Reserve Bank of Atlanta. The appointment, which expires December 31, 1946, was announced by the Board of Governors of the Federal Reserve System.

Mr. Evans was one of the organizers of Tennessee Enamel Mfg. Co. in 1921 and assumed the presidency in 1935. In addition to his business activity and interest in Nashville's civic affairs, he is now devoting considerable attention to the post of Chairman of the Middle Tennessee Committee for Economic Development.

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P. S. Montemayor of Mexico is enrolled at Illinois as a graduate student specializing in porcelain enamels. Mr. Montemayor expects to return to the industry in his country.

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It is reported that Mr. Frank Kulinski is now in charge of enameling activity at Geuder, Paeschke & Frey Co., Milwaukee, Wisconsin.

#### **Chicago Enamelers Club committee chairmen announced**

E. E. Howe, president of the Chicago District Enamelers Club, has just announced the names of the committee chairmen to have charge of the Club's activities for the current year. They are as follows:

W. J. Plankenhorn, Federal Electric Company, Chicago, as Chairman of the Program Committee; W. A. Deringer, A. O. Smith Corporation, as chairman of the membership Committee; and G. W. Hofstetter, Ferro Enamel Corporation, as chairman of the Publicity Committee.

According to Mr. Howe, each chairman will select his own working committee the names of which are expected to be announced later.

From early discussions it is indicated that at least one additional meeting of the Club will be held this year.

#### **New manager for Mills Industries Refrigeration Division**



Sterling Smith, Chief of the Refrigeration and Air Conditioning Section of the General Industrial Equipment Division of the War Production Board, has resigned effective August 1, 1944. He is leaving Washington for health reasons, but after a vacation plans to assume the managership of the Commercial Refrigeration Division of Mills Industries, Chicago.

Mr. Smith has been with WPB since September, 1941, and since then has administered regulations governing production and distribution of

refrigeration and air conditioning equipment; rules governing distribution of freon, generally used in refrigerating equipment of all types, and regulations governing emergency service of refrigerating equipment.

Prior to his association with W.P.B. he was with Nash-Kelvinator Corporation in New York.

#### **Philco appoints new Mid-West sales manager**

William E. Kress has been appointed sales manager of the Middle West for Philco Corporation, with headquarters in Chicago, it was announced by Thomas A. Kennally, vice president in charge of Sales. Kress succeeds John M. Otter who was named sales manager for the Home Radio Division.

A graduate of the University of Illinois, Kress joined Philco in 1934 after eight years of experience in the radio industry. He comes to Chicago from Kansas City.

Federal Electric Company announces the addition of L. V. Kay to their Sales Division. Mr. Kay was formerly with Ray-Flex Corporation, La Porte, Indiana, and comes to the Chicago firm as sales representative in the dealer identification field.

#### **Lt. H. Chester Goudy survives Jap torpedoing**

The story has just been released by the War Shipping Administration of how thirty-eight of the crew of the freighter Richard Hovey were rescued after sixteen days under a blistering sun in the Arabian Sea. After the ship was blown apart by Jap torpedoes and shelled, the sub then machine gunned the life boats. Four lives were lost in the sinking.

Among the survivors was Lt. H. Chester Goudy who, before entering the service, was connected with the Pemco Corporation of Baltimore as eastern sales representative.

Lt. Goudy has been especially commended for his seamanship and his leadership aboard the life boat. "Chet," as he is familiarly known to the enameling trade, was officer in

charge of the gun crew. He recently returned home for a very short stay, and is now back in service.

F. E. (Jerry) Jernberg has resigned from his position as manager of the commercial refrigeration division of Mills Industries. He has recently acquired an interest in the Minneapolis Showcase and Fixture Co., Minneapolis, Minn., and is leaving to take an active part in the management of the latter company.

#### **New editor for Ferro publication**



Ferro Enamel Corporation, Cleveland, has announced the appointment of J. E. (Ed) Hansen as editor of The Enamelist. The publication is now in its 22nd year, and since its inception has been edited by R. A. (Bob) Weaver, Ferro president.

Mr. Hansen will handle the editor's job in addition to his other duties as service director for Ferro.

Ruth Harmon, who has been assistant to the editor and business manager, will continue in these positions.

Following graduation from the University of Illinois, where he majored in chemistry, Mr. Hansen spent six years at Mellon Institute of Industrial Research, working on porcelain enameling problems. He joined the Ferro organization in 1926.

He is a member of the Ceramic Society, and a Forum Committee member of the P.E.I. In addition to numerous articles and papers contributed to ceramic journals, he is the author

More News on Page 40 →

AUGUST • 1944 finish

# Appliances lead the interest at American Furniture Mart

THE July Mart for furniture men opened at the American Furniture Mart with a mad scramble among buyers for dwindling supplies from the industry.

As the buyers came to Chicago, also came news that stricter limitations are being placed upon procurement of lumber for furniture—a limitation said to reach 66% of last year's use.

The great lumber "unknown" cast a shadow over the market comparable to the allocation of springs at last January's meeting.

## Merchandisers head program for Press Club luncheon

Some interesting opinions were picked up at Thursday's Press Club Luncheon, where a question and answer session, entitled "Where Do We Go From Here?", was the program feature.

Pertinent questions were propounded by Margaretta Van R. Schuyler, of Montgomery Ward and Co., and answered by Loren Troost, St. Joseph, Mich., president of the National Retail Furniture Association, who directs three typical "smaller stores" in Michigan.

Leonard W. Stratton, Home Furnishings Merchandise Manager, The Wieboldt Stores, Chicago, was also on the answering end as representing the department store viewpoint. Stratton is chairman of the Home Furnishings Industry Committee, and has been twice selected an "All-American" merchant.

Typical questions were: "How does the supply situation look six months ahead?"

"What style influences will play a part in post-war home equipment?"

"What can the department store learn from the furniture store?"

And, "What can the furniture store learn from the department store?", etc.

Says Mr. Stratton: "The influence of the 18th Century has developed considerably. It is my opinion that

"Modern" will certainly be with us post-warwise. This Modern trend will expand as a result of the influence developed by the apparent streamlining we will see in automobiles, major appliances, etc. . . .

"It is my opinion that to enable a retailer to remain in front with competition he must of necessity learn how to sell merchandise at a lower cost of distribution. The manufac-



Margaretta Van R. Schuyler, of Montgomery Ward & Company, asked the questions at the Furniture Mart Press Club luncheon.

turers will recognize that to succeed they must get their merchandise on the dealer's floor at a minimum of expense to them. . . .

"I think we should devote (editorial and advertising) space to the 'practical' items as against the 'new', and should illustrate items that are generally available."

Said Mr. Troost: "I think there will be a great deal more clean-line, simple modern and less of the ornate. . . .

"The reduction in cost of distributing is a joint responsibility of manufacturers and retailers. Any considerable reduction in retail operation can be accomplished only in reduction of service to customers and by the elimination of time-consuming, shopping practices by the public.

Concerning magazines he said, "I believe a more realistic approach by illustrating merchandise which is more generally available would benefit all concerned. . . ."

## Store and display modernization should sell porcelain enamel

Speaking on the "ABC's of Post-War Modernization" Philip D. West, construction and equipment manager of Butler Bros. predicted a strong movement for store modernization. Before a "clinic meeting" of retailers Mr. West advocated that both store fronts and interiors be modernized. Said he, "Everything possible must be done to carry the public's interest from the front to the interior of the store."

This should afford an excellent opportunity for the architectural porcelain producers "to make hay" with the furniture men.

## To lean more heavily on appliance lines

Wm. Carlile, senior member of Carlile & Sons, furniture retailers of Columbus, Ohio, predicts that the war-working Mama has her eye on new goods, and he plans to go into all appliance lines more heavily in the post-war period.

## Appliances to be "stars" instead of "extras"

Jack Frohlich, promotion manager of Norge Division, Borg Warner, Detroit, believes the furniture store of the future will "star" appliances instead of handling them as "extras." Said Frohlich, "The belief of many dealers that appliances are not as profitable in dollars and cents as furniture actually is a fallacy." He pointed out that on the basis of U.S. Chamber of Commerce survey, the post-war potential in furniture and floor coverings is 711 million dollars as compared to 1 billion, 215 million for major appliances.

He further pointed out, "Appliances require less floor space for display . . . they require less storage space and for a much shorter average time. With appliances there are



*Accompanying photographs show general views of the 17th floor appliance mart visited by hundreds of furniture dealers during the recent meeting. A few of the individual appliance manufacturers' displays are also pictured. The 17th floor was one of the chief centers of interest for the market.*

no lay-aways to tie up space and capital."

#### **Retailers must identify themselves as appliance stores**

J. H. Rasmussen, commercial manager, The Crosley Corp., Cincinnati, urges dealers who may have lost their identity as radio and major household appliance dealers in the past year or two to start re-identifying their stores as appliances stores now . . . in preparation for the time when products are available . . . to take advantage of the greatly increased business in major appliances that was just getting started before the war.



#### **Distribution to be speeded up**

W. J. Cashman, director of promotion for Landers, Frary and Clark, New Britain, Conn., said:

"Essentially there are no insuperable problems confronting manufacturers. Engineering and production developments have been pushed ahead by the war; some delays in production are bound to occur, but the competition of new manufacturers in the field will force prewar appliance manufacturers to protect their positions by speedily supplying their customers with merchandise within such restrictions as are imposed by government."

#### **Central display for major appliance manufacturers**

Due to the wartime use of space in the Furniture Mart, a coordinated display of major appliances was featured this year on the 17th floor of the Mart Building. Most of the appliances shown represented pre-war models, but in several instances—such as Admiral, Coolerator, etc.—plans for post-war lines were indicated.

At one end of the large display floor Frigidaire, G.E. and Westinghouse had large displays, and one of the most elaborate displays on the floor was that of Norge Division, Borg-Warner. In addition to featuring their household appliances, a "while-you-wait" photographic booth was a part of the display.

#### **Electric refrigerators carry high rating**

It was brought out in recent sessions that the stock pile of new household mechanical refrigerators has been reduced to about 15% of its original size early in 1942, when production was stopped. WPB says that only highly essential military and public health needs can be met from the remaining supply.

Eight hundred and twenty-one thousand ice refrigerators are programmed for production in 1944.

#### **Food lockers a new industry**

Leaders in the quick-freeze industry anticipate that the food locker

industry, in peace-time, will become 100 times more necessary to the community than at present. They visualize 30,000 to 40,000 locker plants in this country within five years after the war.

#### Retailers oppose 25-year appliance credits \*

According to Roscoe R. Rau, secretary and executive vice president, National Retail Furniture Association, the NRFA is opposed to the idea of the plan to allow home buyers 25 years to pay for appliances by including them in the purchase price of an FHA home.

It is the feeling of the organization that this trend to long terms and low payments is dangerous, as many appliances would be worn out before they are paid for.

It is safe to say that interest among furniture dealers hit a new high with respect to household appliances at the current Mart session.

As one stove manufacturer put it: "I could have sold my entire production before the first day of the Mart was over."

All buyers were eager to hear from manufacturers what they may expect the moment reconversion to civilian production is permitted by WPB.

#### Nelson invites free competition

The release of Donald Nelson's opinion with regard to "new" competition among appliance producers was of distinct interest to both manufacturers and retailers.

Said Nelson:

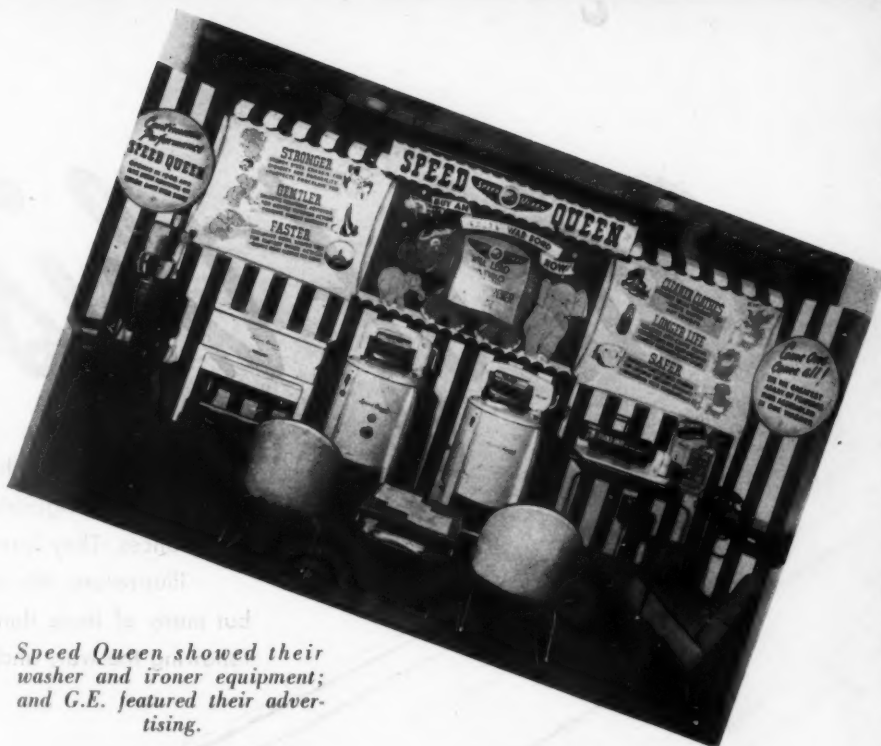
"In the public interest, new manufacturers should take a prominent part in civilian goods output in the reconversion period following the defeat of one of the axis partners. To what extent new industries will be invited to move into fields previously dominated by established companies has not yet been determined.

"Although some people advocate a

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\*(See discussion by A. S. Goldman, *Architectural Forum Magazine*, page 46 July finish.)

AUGUST • 1944 finish



*Speed Queen showed their washer and ironer equipment; and G.E. featured their advertising.*



# Out of this world

WIDE PUBLICITY has been given to odd-shaped stoves, round refrigerators and other futuristic-looking home appliances. They have been dreamed by copywriters and illustrators. We are firm believers in selling the future but many of these things will not be available immediately following the war, and many more may never be available.



# and how!

We believe that improvements in design will come in an orderly manner—as they have in the past, and that while progress has been made, and will be made by manufacturers, it's the result of faithful research and development with an eye on utility, consumer need and acceptance.

Chicago Vit has made great progress in the development of porcelain enamels for use by appliance manufacturers. Our findings are based on patient research the results of which are proven records in porcelain enameling plants.

Therefore we say—whether the illustrator's dreams will come true post-war, 100 years hence or ever, enameling plants will be applying the finest of all finishes—**PORCELAIN ENAMEL.**

Whether the war ends soon or is prolonged, the need for beginning a comprehensive and definite program for conversion is plain. With full confidence in the coming peace it is time for action. Begin with a discussion of your plans for after the war.

Let Chicago Vit technicians and service men give you the benefit of their experience and knowledge. Many plants have complete plans made by Chicago Vit for modernizing existing plants and for the construction of entirely new plants. We are working on surveys, plans and layouts for many others. We can help you, too.

**CHICAGO  
VITREOUS**

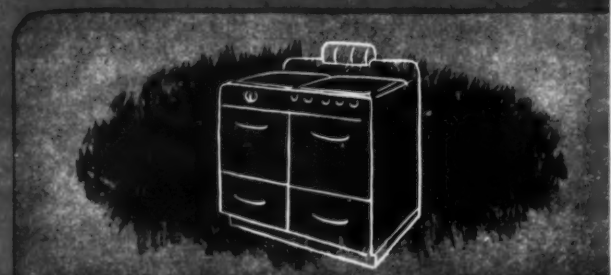
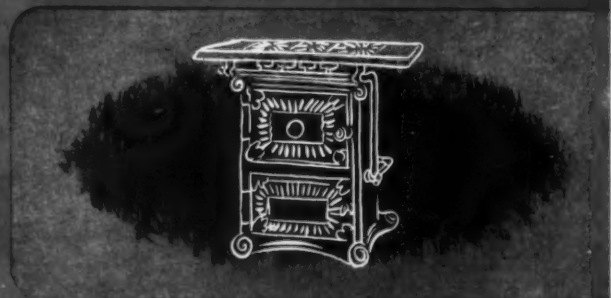
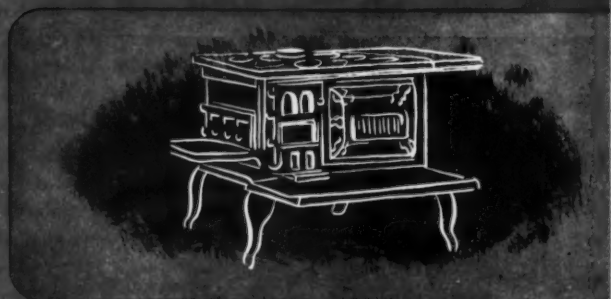
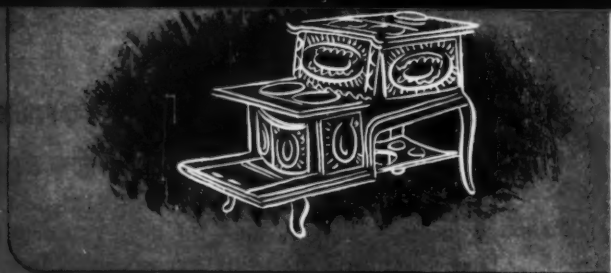
**ENAMEL**

**PRODUCT**

**CHICAGO 50, ILLINOIS**

**COMPANY**

*Makers of Fine Porcelain Enamels*



## E. U. M. C. technical committee meets at University of Illinois

THE second general meeting of the technical committee of the Enamelled Utensil Manufacturers' Council, consisting of a three-day session, was held recently in the Department of Ceramic Engineering at the University of Illinois.

At the meeting the technical men from the member plants were given a summary of the results of work done on the cooperative project which is sponsored by the Council at the University.

The complete program for the meeting included the following:

*First day:* Registration and group luncheon; an address of welcome by Dean M. L. Enger; A Review of Test Results, "Miscellaneous Shapes and Two-Quart Pudding Pans," by F. A. Petersen; and a group dinner at the

Urbana-Lincoln Hotel.

Guest speaker at the dinner was Mr. I. J. Fairchild, National Bureau of Standards, whose subject was, "Why Kitchenware Standards." Mr. Fairchild, who is chief of the Division of Trade Standards at the Bureau and has been connected with this work for the past twenty-two years, pointed out some of the advantages of setting up commercial standards and showed how the commercial standard CS 100-42 can be of great value to the industry.

The *second day* marked the start of a general session program. Papers in the morning included: "New Developments in the Enameling Industry," by A. I. Andrews; "Chemical Durability of Enamels," by R. L. Cook; "Enamel Composition," by

A. I. Andrews; and "Enamel Clays," by R. L. Cook.

Following a group luncheon the program was continued to include: "Relation of Chipping to Enamel Properties," by F. A. Petersen; "Tearing of Enamels," by A. I. Andrews; "Hairlines in Enamels," by F. A. Petersen; and Movies Showing Development of Enamel Defects by A. I. Andrews.

The *third day's* program included a roundtable discussion of questions that had been submitted by men in the industry. Headed by Professors A. I. Andrews, C. M. Andrews, Bennett, Petersen, and Dr. Cook, the round-table discussion covered many problems relating to E.U.M.C. work.

A great deal of interest was shown in this final part of the program, participated in by many representatives present, and during which many good discussions were offered.



First Row: H. H. Maas, The Vollrath Company, Sheboygan, Wisconsin; H. M. Zimmerman, Fletcher Enamel Company, Dunbar, W. Va.; L. Ashby, U. S. Stamping Co., Moundsville, W. Va.; Leas Housley, Republic Stamping & Enameling Co., Canton, Ohio; L. E. Aarnink, Columbian Enameling & Stamping Co., Terre Haute, Ind.; A. J. Vollrath, Polar Ware Company, Sheboygan, Wisconsin; H. Boyer, Jones Metal Products Company, West Lafayette, Ohio. Second Row: R. L. Cook, University of Illinois, Urbana, Illinois; F. J. Hodnick, Canton Stamping & Enameling Co., Canton, Ohio; E. C. Dexheimer, National Enameling & Stamping Co., Granite City, Ill.; J. D. McQuade, U. S. Stamping Company, Moundsville, W. Va.; Paul Huppert, Bellaire Enamel Company, Bellaire, Ohio; Bob Gorby, Columbian Enameling & Stamping Co., Terre Haute, Ind.; D. G. Bennett, University of Illinois, Urbana, Illinois. Third Row: O. E. Mulvane, Moore Enameling & Mfg. Co., West Lafayette, Ohio; C. F. Schiller, Bellaire Enamel Company, Bellaire, Ohio; G. A. Foehse, National Enameling & Stamping Co., Granite City, Ill.; P. A. Mallonn, Republic Stamping & Enameling Co., Canton, Ohio; H. C. Arnold, Federal Enameling & Stamping Co., Pittsburgh, Pa.; S. A. Chambers, U. S. Stamping Company, Moundsville, W. Va.; C. M. Andrews, University of Illinois, Urbana, Illinois. Fourth Row: F. A. Petersen, University of Illinois, Urbana, Illinois; W. N. Lybarger, Jones Metal Products Company, West Lafayette, Ohio; E. A. Schwarz, Crunden Martin Manufacturing Co., St. Louis, Mo.; E. H. Kelsey, Columbian Enameling & Stamping Co., Terre Haute, Ind.; B. S. Kirk, Belmont Stamping & Enameling Co., New Philadelphia, Ohio; A. I. Andrews, University of Illinois, Urbana, Illinois.

# WE'VE GOT A RIGHT TO CROW!



**H**ave you heard about Ing-Rich's No. 816 one-coat, one-fire finish? It's been on the market for over a year, but we wanted to wait until it had been tried, tested, and proved out in the field before we started boasting.

Now we've got a right to crow! Here is a practical porcelain enamel finish for heater manufacturers who find costs of materials and the critical manpower situation determining factors.

We are listing below the 7 big features of Ing-Rich No. 816 frit.

- 1. Can either be sprayed or dipped.
- 2. Low fusing temperature with a wide burning range.
- 3. Strong adherence to the metal base.
- 4. Ease of workability under varying conditions.
- 5. Excellent for producing heater browns. Also blues, greens and greys for other uses.
- 6. Tested, tried and proved in a number of heater manufacturers' plants.
- 7. Proved in our laboratory and plant.

Why not contact us now for further details.

**INGRAM-RICHARDSON MFG. CO.**  
OF INDIANA • INCORPORATED  
FRANKFORD, INDIANA

**A COMPLETE ENAMELING SERVICE**



## A DEPENDABLE *Buying Guide!*



Electrical dealers and their customers are looking for the T-K "Symbol of Service" on the cooking and heating appliances they buy! A powerful T-K advertising-merchandising campaign is creating ready acceptance for electrical appliances equipped with T-K cooking and heating devices. T-K Electric Range Heating Units have long been standard equipment for the big majority of America's Electric Range Makers. T-K units also lead the field for replacement and reconditioning. Cash in on our forceful campaign. Capitalize upon the popularity and reputation of the T-K "Symbol of Service." Let it appear prominently on all of the heating units in the Electric Ranges you make. Write us about your immediate and post-war needs and ask about the new T-K Perpetual Heat Control.



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of "Technique of Porcelain Enameling," "Advanced Technique of Porcelain Enameling," and "Manual of Porcelain Enameling," and headed the "Short Course in Porcelain Enameling" sponsored by his company for a number of years prior to 1936.

News comes from the National Electric Sign Association that Harold W. Kirn has been elected as a director. The Board of Directors have also elected him as secretary-treasurer of the association to fill the unexpired term of his brother, George C. Kirn, Jr.

After the outbreak of the war Harold Kirn was connected with the Smaller War Plants Corp., but returned to the Kirn Advertising Company in the fall of '43 as sales manager. He is now president of the company.

*Finish* learns of the recent arrival of a new son at the home of M. E. (Mac) McHardy, superintendent of porcelain enameling for Seeger Refrigerator Company, St. Paul, Minn. *Like mother, like son* — the new arrival has red hair.

### Don Beal to Youngstown Sheet and Tube

Effective August 1st, D. S. (Don) Beal joins the Metallurgical Division of the Youngstown Sheet & Tube Co. Logically enough his work will be on enameling sheets. It is understood he will take over the responsibilities previously handled by the late A. L. Matthes.

"Don" has had extensive experience in the enameling industry, having spent five years with Westinghouse as ceramic engineer, four years with Servel as ceramic engineer in charge of control and four years with Pemco Corporation as service engineer. Prior to joining the Youngstown organization he has been at Northwestern University on special research work for the Navy.

Homemakers have enjoyed using porcelain enameled ware for over 100 years.

# News from Washington

## Pressed metal products industry

This industry has been urged by Government officials to immediately cancel orders for steel not needed because of order or delivery cut-backs. Steel mills are overloaded, a representative of the steel division said, and no sheet capacity is now available for the third quarter of 1944.

A plan for the liquidation of surplus government owned machine tools was submitted by an industry committee member. The plan involves the return of such facilities to the original builders if they are in need of major repairs. . . . His suggestions included an accelerated depreciation plan, through the issuance of certificates, to make the purchase of these tools attractive to industry. The stamping industry, he said, is operating with much old equipment; this might be replaced with good re-conditioned facilities which would be the equivalent of new.

Sulphuric acid requirements for the steel industry in 1944 are estimated at 593,914 tons of 100% acid for pickling steel.

## Commercial cooking and dishwashing equipment

The responsibility of determining how much non-electric commercial cooking and dishwashing equipment is needed for industrial feeding, hospitals, schools and other institutions as well as for commercial purposes belongs to the Office of Civilian Requirements' Plumbing and Heating Branch, the War Production Board explains. That office is also charged with the responsibility of seeing that civilian needs for such equipment are considered when materials are allocated and the quantity of production planned.

Requirements as programmed by OCR show a great increase for 1944, because of the anticipated need for such equipment for the industrial feeding program. Stated needs for all civilian uses call for 1,604 dishwashers and 15,807 units of commer-

cial cooking appliances for this year's third quarter.

The seriousness of the need for this equipment for industrial feeding, plus the decrease in demand from the armed services, is said to be responsible for implementing increased production.

## New base prices for warm-air furnaces

In order to carry out the original intent of the action taken June 24, 1944, permitting an increase in manufacturers' maximum prices of some types of warm-air furnaces and all warm-air furnace repair parts, the Office of Price Administration has announced that published list prices of August 3, 1943, will be used as base prices, rather than the list prices of August 4, 1943, as previously announced.

The June 24, 1944 action was intended to grant a nine per cent increase to manufacturers of cast-iron gas-fired, oil-fired and wood-fired warm-air furnaces which had not previously been covered by the price increase. By including these commodities within the coverage of the 9 per cent increase the entire warm-air furnace field was covered by the adjustment.

However, since some manufacturers had published new list prices dated August 4, 1943, already reflecting a 9 per cent increase in prices, in some cases the use of that date as the base for pricing under the June 24, 1944, action, would result in a double increase rather than only the intended nine per cent, it was stated.

## New price setup on barium chemicals

Specific dollars-per-ton prices have been issued for technical grades of barium carbon precipitated, barium chloride, and barium nitrate the Office of Price Administration announced.

The new prices are contained in a new dollars-and-cents maximum price

regulation (effective June 27, 1944). The products were previously covered by the General Maximum Price Regulation, with prices "frozen" at March 1942 "highs."

New Prices represent an increase over present prices for carbonate and chloride, and a reduction under the level of the General Maximum Price Regulation for nitrate.

## Refrigeration and air conditioning industry investigating production requirements

Eleven task committees that are studying various segments of the air conditioning and refrigeration industry with a view to determining future production needs and problems, made progress reports to the General Refrigeration and Air Conditioning Industry Advisory Committee during its meeting in Washington recently.

Segments of the industry that are being studied by these groups are:

1. Home freezers.
2. Farm freezers.
3. Commercial frozen food storage and dispensing cabinets.
4. Soda fountains, fountainettes, salad and sandwich units and refrigerated backbars.
5. Ice cream cabinets.
6. Water coolers.
7. Unit Air Conditioners.
8. Walk-in coolers, reach-in refrigerators and display cases.
9. Bottled beverage coolers and vending machines.
10. Bulk beverage, dispensing and vending coolers and equipment.
11. Frozen food locker plants.

The committees are directing their efforts to finding out (1) what products will be needed immediately to fill urgent demands and (2) to determine requirements of the air conditioning and refrigeration equipment industry for long-term future production when it becomes possible to eliminate restrictions that now apply to the output of certain items.

War Production Board officials reported to the General Refrigeration and Air Conditioning Industry Advisory Committee that WPB's Urgency Rating Committee has approved

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## The how and why of sign advertising . . . (Continued)

### Part V

sound investment of good sign copy becomes apparent. One experienced sign user said: "I always work on the principle that money spent on good copy and good art-work is one of the best investments I can make, and with sign copy that goes double."

Here are some other examples of sign copy where the addition of a single word or phrase increases the selling value:

"OK Used Cars"—Chevrolet.

"Certified Sahara"—Sahara Coal Company.

"Self Service"—in A & P Super Market signs.

"Texaco Certified Service"—The Texas Company.

"Safety Built"—Sears' Allstate Tires.

"Certified Power"—Sears' Cross Country Batteries.

Selling phrases slightly longer than the above are used in the following sign copy:

"This much more in a Shelvador"—Crosley.

"Smooth as glass"—Pittsburgh Paints.

"Use Blue Coal for low cost even heat"—Blue Coal Corp.

In each case these signs emphasized the name for identification purposes. How the name and the selling copy can be worked into a sign to give the right degree of importance to each is described in Part VI dealing with sign layout.

#### The basic theme

In the creation of copy for any purpose other than name identification, it is well to keep in mind the anticipated life of the sign. The most economical forms of sign advertising are those that last for a number of years. Spectaculars are leased on contracts of three to five years, or for an even longer period. Porcelain enamel signs have a guaranteed life of at least ten years and are effective for many years more.

Such signs should not carry a message of fleeting importance. The theme must be relatively permanent. For sixty years the signs of the Sweet-

Orr Overall Company have pictured six men, three on a side, engaged in a tug-of-war using a pair of Sweet-Orr overalls as the *piece de resistance*. That theme has been basic since Sweet-Orr used it on a brass circular sign for mounting on the corner of stores a half century ago. It still gives a strong, positive reason for buying this brand of overall. It is a graphic illustration of the use of a sound basic theme.

The difficulty that may result from ill-advised sign copy is illustrated by an incident in the program of one of the major oil companies. They once featured a motor oil in a spectacular which they leased on a three-year contract. Within a year's time, the competitive activity of the oil marketing business made it desirable for them to feature gasoline rather than oil. The sign company agreed to share with the oil company half the cost of changing the copy, yet even so the change was costly for all concerned. Occasionally such emergencies can not be foreseen. It is well to choose an advertising message so basic whenever possible that such changes are not likely to be necessary.

#### Test sign copy for clarity

The highly paid advertising copywriters have long made a practice of checking their copy, before they submit it for use, with various disinterested people outside of their own organization. They observe carefully those reading the copy, to note any difficulty they might have, any misunderstanding they might get, or any words or phrases that are not immediately clear. Such words and

phrases are eliminated or simplified. In this way they attempt to prevent the wrong impression that such copy might create once it has reached its place in an advertising medium.

Sign copy can and should be tested in the same way. It should be submitted to a number of people of the classes to which it is directed. They should be asked to read it and give their opinion of it, this opinion not to be a studied one. This in itself may be meaningless; yet whether or not they can read it without difficulty is vitally important. Eliminate any word they do not readily understand. Rewrite words and phrases that may be suspected of having a double meaning.

It is wise to give sufficient attention to your sign copy to make sure it will produce the greatest possible sales for you. Don't risk perpetuating a mistake and robbing yourself of part of your signs' advertising value. Once an advertisement is printed, or a sign is put up, it is too late to remedy any weakness it may have.

Avail yourself of expert creative ability. One way is to call on the services of your advertising agency writers. Also, utilize the service of your sign manufacturer who maintains highly skilled artists capable of judging final effectiveness. Do everything possible to get quality and selling "punch" into your signs. Your efforts in this direction will pay well rounded dividends.

*Closely allied with copy—so closely, in fact, that the two are usually regarded as one and the same thing in sign advertising—is the layout or design, the atmosphere in which the copy is presented. How to develop arresting layout and design for your sign is the subject of Part VI.*

## Answer to porcelain enamel erection . . . (Continued)

saving in traveling time and traveling expenses alone would prove to be of benefit to the enameling companies as well as the customers.

A national erection organization might offer additional services to the enameling companies.

Every enameling company will require an engineering department regardless of the volume of architectural enamel, for the maintenance and operation of their plants. Some companies will be able to handle all

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# BOXES and CRATES

## All Types of Wooden Packages



HINGE CORNER

NAILED CRATES

WIREBOUND

PLYWOOD

SHOP and TOTE BOXES



### CHICAGO MILL AND LUMBER COMPANY

111 W. Washington Street

Chicago 2, Illinois

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field engineering, designing and detailing of architectural porcelain with their own engineers. Others may desire to have the erection company handle some or all of their field measuring and detail engineering for them after the erection company is thoroughly familiar with their production practices.

No one should be optimistic enough to believe that such an organization would put an end to all worries and problems. Many unusual circumstances and difficulties are bound to occur. Everyone who has had experience with construction knows that unforeseen difficulties always occur. Delays in deliveries, imperfections in material, unsatisfactory erection, non-payment of contracts and so forth, would still cause occasional problems, but under the guidance of experienced men, many problems can be anticipated and avoided while other difficulties can be straightened out promptly when they arise.

I fully realize that each enameling company will wish to guard its independence and protect its competitive

standing, and also that several details would have to be worked out before a successful combined erection organization could be launched, but I know of no problem which cannot be solved if the enamelers are convinced that a united effort will be in the interest of the porcelain enamel industry in general, and will prove to be of definite benefit to each enameling company in particular.

An entirely different method to improve your erection conditions may be desirable, but whatever the answer may be, the fact remains that satisfactory, efficient and economical erection of all architectural porcelain enamel is of the utmost importance to its future success.

I am confident that combined efforts will result in definite benefits to customers, agents, the enameling companies, and the industry, and that architectural porcelain enamel will be one of the outstanding building facing materials of the post-war era.

*This article by Mr. van der Kloet was presented before the Porcelain Enamel Institute Architectural Forum in Cleveland, Ohio.*

### **Booster tanks—help fighter pilots . . . (Continued)**

every operation and the completed unit.

From the shipping room the tanks go wherever the Air Forces need them as auxiliary equipment for P-51 Mustang fighters, P-47 Thunderbolts and the P-40 Warhawks. Tanks are also being built for the new P-63 Airacobra. This 75-gallon tank production is in addition to the large order for 150-gallon tanks (droppable) now in mass production at the Mans-

field Plant.

Just a little less than four weeks from the time that the renovation plans were begun the first of the tanks left the conveyor belt.

"We have made a wonderful showing as a result of the cooperation of all concerned," said "Dick" Tappan, "and we have pledged ourselves to the unlimited production of tanks with the greatest amount of efficiency and speed."

### **Appliances for tomorrow . . . (Continued)**

how to distribute them to the consumer efficiently and cheaply. It is axiomatic that one cannot have mass production without mass distribution. It is obvious that a list price four times the manufacturing cost is indicative of extreme inefficiency in mass distribution. To spend one dollar on market research to \$75 spent

on industrial research is cock-eyed. It is all the result of a new, young and growing industry based on our early American economy of scarcity where any product that worked would sell. We are now entering an economy of abundance where there are many, many products for the consumer to select from, and where mass

acceptance is absolutely essential to the adequate sales of a product. Efficient distribution of mass merchandise is our one big hope for a sound economic future. Industry must plan this future itself—or it will be forced sooner or later from Washington.

Another straw in the wind—until last year's convention the National Association of Manufacturers never seemed to have heard of the sales function of business. By and large this Association has been officered by men from the production, legal, and financial end of business. Only within the past several months has there been some stirring of interest in the sales problem, and only recently have they begun to prepare booklets to consider the problems of mass distribution and acceptance.

The trend for the cooking and heating appliance manufacturers is clear. A greater proportion of the sales dollar must be spent in consumer and industrial research. For the smaller companies this ratio should be as high as 4% to 5%. Go back and check your own expenditures and see how far below this figure you are. If your expenditure is far below it, start to worry now about your competitor who is spending more money on research.

### **Judge your surveys carefully**

It is important not to rely on the surveys conducted by the public utilities. These surveys into consumer desires are not accurate. First, they test only the city market where the large utilities are located. Secondly, they usually test only the middle market and their findings are not accurate for the very low cost appliances or the very high cost appliances. Lastly, they test the market through drawings and illustrations—showing a woman a line-drawing of a range with the various types of arrangements and asking her which one she prefers is certainly only scratching the top surface of consumer research. The average woman does not know what she wants until she sees it in the round three-dimensional form. The range manufacturer

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## LOCATION IS IMPORTANT

The factory from which you buy your porcelain enameled parts should be centrally located.

Our plant at Nappanee, just out of Elkhart, is about 60 miles from Chicago. It is on the B&O Railroad and on through trucking lines; a convenient, economical shipping point.

Your source for porcelain enamel should be in the right kind of a community.

Nappanee is not a typical midwest small town. It is the center of a prosperous farming country. It is the home of several old, nationally known industries.

People own their own homes in Nappanee. Unlike most manufacturing towns, Nappanee's population is almost 100% second or third generation Americans — folks who believe in working — who take pride in their jobs. Some of them have been with us since we started business 25 years ago.

Our plant at Nappanee is one of the most modern in the industry. We are accustomed to high inspection requirements and large quantity production.

We are anxious to start work with manufacturers needing our kind of production. Then when the war is over we will be ready to go.

**VITREOUS STEEL PRODUCTS CO.**

BOX 1791, CLEVELAND 5, OHIO (Factory at Nappanee, Ind.)

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ers have been too prone to use the survey results of the utilities as their bible of consumer information. The fact simply remains that these surveys are not complete enough and have not been conducted well enough — have not been conducted with enough information or “know how” — and are not accurate. A far better source of unbiased market research would be through the manufacturers’ associations themselves, and should this type of market research not materialize, individual manufacturers should proceed with it themselves. Certainly, every survey from outside sources should be checked by the manufacturer and should be carefully weighed in the light of his experience, his

## Appliances lead the interest

### at American Furniture Mart

(Continued)

policy of enforcing war controls until big and small business can re-enter civilian production simultaneously, this means that small business must stagnate until the big producers are ready to go. . . .

“WPB can not tell new companies not to go into production because other companies operating in tight labor areas on war production can not start on domestic goods.

“Naturally, some companies will suffer, but this policy looks to the general public interest. After all, the

equipment and his appliances.

In closing let me say that industrial design is really part consumer research and part industrial research. The industrial designer is concerned with creating a product for mass acceptance at a price that the consumer can afford to pay. This means that his design must be based on the results of consumer research, but must be done in cooperation with the engineers so that it is well suited to high mass production.

This article was adapted from a talk given before the Mid-Year Meeting of the Institute of Cooking and Heating Appliance Manufacturers with special supplement for *finish*.

garageman and the grocer who closed their shops and went to war suffered, too.”

#### Date set for next mart

Mart officials announced that the Annual Winter Market will be held January 8th to 20th.

In announcing the date at this time Mart officials urged that all those planning to attend arrange transportation and hotel reservations well in advance, due to congested conditions.

## News from Washington . . . (Continued)

the use of AA-1 preference ratings for materials for the manufacture of refrigeration repair parts. It was also pointed out that in processing current WPB-547 (formerly PD-IX) applications the AA-1 preference rating is being assigned for products that are in short supply to aid in their distribution.

#### Water storage tank quotas

Production quotas for range boilers, expansion tanks and hot water

storage tanks have been set for the period from June 2, 1944, through December 31, 1944, the War Production Board states.

The newly revised order provides that production for the seven-month period from June 2 to December 31, 1944, shall be 7/12 of the quota provided for each calendar year. Each manufacturer's calendar year production of range boilers and expansion tanks is limited to 70 per cent of his unit output during 1941, while production of hot water storage tanks

is permitted each manufacturer at the rate of 75 per cent of his 1941 unit output.

#### Reclassification of non-electric cooking and heating appliances

Concentration of production of non-electric domestic cooking appliances and heating stoves has been eliminated, according to WPB.

All manufacturers are now classified uniformly and any manufacturer may be granted permission to produce provided that such production will not interfere with his war work, WPB said.

According to WPB no increase in the amount of steel available for *enameled ware* production is foreseen for the immediate future.

A plan designed to give small plants a greater participation in essential *civilian* production has been approved by WPB.

## Industrial Publications

#### New "Infra-Red" gas burner catalog

A new 114 page catalog, rich in illustrations and descriptions of Burdett "Infra-Red" Principle Gas Burners and Combustion Equipment, also presenting a wealth of engineering and reference material, has just been released by the Burdett Mfg. Co., 19 N. Loomis St., Chicago.

It is stated that this new catalog will be sent only to distributors and industrial sales engineers upon request, and written on their company stationery.

It includes burners, mixing equipment, valves, gas pressure regulators, motors and blowers, pilot safety devices, temperature controls, electrical accessories and general engineering data such as velocity pressures, motor ratings, measurement of electrical power, calculating power requirement tables and charts, heat losses, thermal capacity of gases, etc.

# TIME-PROVED

## ZIRCONIUM GLAZE OPACIFIERS



**PERFORMANCE** is the proof of any product! And it is on the strength of their record that Zirconium Opacifiers are winning more backers among ceramists every day. Far from being replacements for tin, they have many times demonstrated their own inherent superiorities. Here, for instance, are a few actual reports from users:

*"Quite pleased with the way Zircopax glaze is performing."*

*"All the opacifier we use is Zircopax and it does a good job."*

*"...much encouraged with results on these glazes (made with TAM Zirconium Opacifiers) and will do more work with them."*

*"Getting good results with 8½% Zircopax, two fire, cone 4 to 5 glaze."*

*"This glaze (made with Zirconium Opacifiers) is between 1¼¢ and 2¢ a pound cheaper than old tin glaze."*

# TITANIUM

ALLOY MANUFACTURING COMPANY



To help you obtain top glaze results, TAMCO maintains two services that are available at all times: (1) Our Service Development Division, at the plant, and (2) our field engineers who are always glad to work with your production department.

BACK THE ATTACK—BUY MORE THAN BEFORE!

GENERAL OFFICES AND WORKS: NIAGARA FALLS, N. Y., U. S. A.  
EXECUTIVE OFFICES: 111 BROADWAY, NEW YORK CITY

Representatives for Pacific Coast States . . . L. H. BUTCHER COMPANY, Los Angeles, San Francisco, Portland, Seattle  
Representatives for Canada outside of Ontario . . . PRESCOTT & COMPANY, Registered, Montreal, Canada  
Representatives for Europe . . . UNION OXIDE & CHEMICAL CO., Ltd., Plantation House, Fenchurch St., London, E. C., England

## Good Enameling Requires High-Grade Enamel Frits

Which makes it just plain good business to use Orefraction Zircon. Compare it with any other Zircon for purity, uniformity and workability.

There's sound reason for Orefraction Zircon's fine separations and freedom from impurities—exclusive processes and equipment. Try Orefraction and note the improvement in your enamel frits.



Produced by

*Orefraction, Inc.*

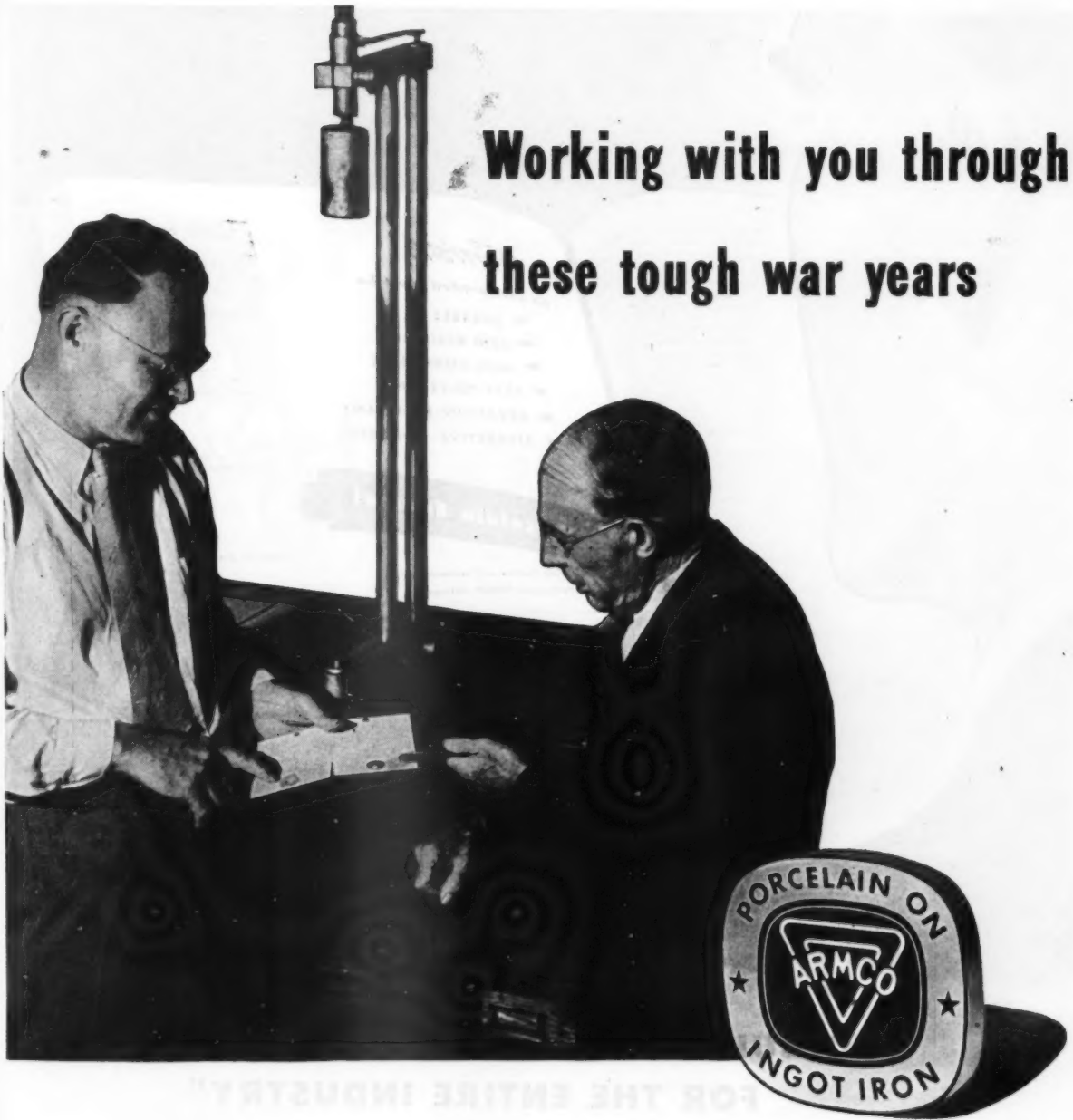
7516 Meade Street

Pittsburgh 8, Pa.



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## Working with you through these tough war years

**L**ONG before the war the Armco Porcelain Enamel Laboratory had a nation-wide reputation in the industry for developing constantly better enameling stock and for close co-operation with enamellers.

**Preventing War Headaches.** During these tough war years Armco service men have kept in touch with every one of their customers—helping them meet special needs, checking on designs, shop practice and other wartime problems.

**Broader Service after War.** Already Armco's field service organization is planning for even closer co-operation with enamellers after the war. They'll study

the need before production starts—how flat the metal must be, how severely it must be drawn, what the physical properties must be, and much else. They will even help enamellers with special problems not necessarily related to enameling stock.

**Future Is Bright.** Great strides are being made in research. Experiments at the Armco Enameling Laboratory hold enormous possibilities for porcelain enameling after the war. Then enamellers will have enameling stock that will be better than anything they've known. The American Rolling Mill Company, 2861 Curtis Street, Middletown, Ohio.

HELP FINISH THE FIGHT—WITH WAR BONDS